Appendices

A - Community Priorities for Shandon Development, March 7, 2007

B - Infrastructure and Utilities Technical Appendix

C - Shandon Master Tree List

D - EIR Mitigation Measures

E - Wood Rodgers Inc. Technical Memorandum, Shandon Community Plan Update, Draft Transportation Impact Fee Program

F - Background Maps – Contour Map and 2011 Assessor's Parcel Maps for Table 3.4

Appendix A

Community Priorities for Shandon Development

March 7, 2007

Members of the greater Shandon community have been meeting and discussing our collective vision of what we think any future development should encompass. There is substantial consensus that if development occurs in Shandon, whether it is a few houses or a larger development project, that all building should conform to or support the following criteria. We believe these priorities and values should be included in our General Plan update and in all subsequent specific plans.

DESIGN

- Cluster houses and apartments outside and around the central part of a village with the center consisting of a small commercial area, park, playground, or town square, or some combination of those uses. The community, through the Shandon Advisory Committee, should help determine which uses would become part of the village center.

- The General Plan and specific plans should forbid houses being built on long "strip" streets. This does not create the close knit neighborhoods we desire.

- Every development needs to provide walking and bike paths away from streets. These pedestrian and bike paths should interconnects between the separate developments to facilitate non motorized movement. These interconnections should be a part of the master plan.

- There should be a green belt, rather than large, tall urban type walls, to act as a buffer between development and agricultural areas. This should be accomplished by using open space, conservation easements, green space agreements, etc. These buffer areas should be created to assure the town will be limited to the size agreed upon by current residents.

- There should be no hillside nor hilltop development.

- Prohibit development in flood prone areas, including areas of potential erosion in a 100 year storm. Specific and substantial setbacks are needed from the San Juan, Estrella and Cholame rivers.

- Require percolation areas to reduce runoff and erosion and to recharge the aquifer. A systematic drainage system is needed for larger storm events.

- All utilities should be underground.

- All streets must be paved, with gutters and sidewalks.

- Natural gas needs to be extended and connected to every house.

- Street lights should be designed to limit light pollution and should be energy efficient. LED technology efficiency standards should be the guideline by which this component is measured.

- Commercial and residential buildings should be limited to a maximum height of two stories.

- The County should facilitate the development of a community supported architectural style to be followed throughout the town. Compliance should be assured by the Board of Supervisors giving the Shandon Advisory Committee substantial authority to determine compliance with the architectural standards.

- Require paleontological and archaeological work to precede ground disturbance and to continue during all ground work.

COMMUNITY NEEDS

- We agree that there should be enough development of houses to cover the costs of a sewer system for entire community. The number of houses necessary to do this should be determined by an independent, outside consultant.

- No development of any size should occur in Shandon without either a sewer system, or a contribution to a fund for the purpose of building a sewer system. No house or commercial building should be allowed to be built without including a sewer stub for future connection to a sewer. Larger developments must have sewer lines throughout the development, even if the houses are initially going to be on septic tanks.

- Limit housing numbers to capacity of the school system, including any additional construction bonding capacity.

- Every development should include the establishment of a community association to help monitor common areas and compliance with applicable laws and regulations.

- Commercial services should mostly be located around the existing town center. Exceptions (such as in a new village center) should be subject to the concurrence of the Shandon Advisory Committee.

- The General Plan should create the infrastructure for a Sheriff substation or resident deputy.

- Ban motor vehicle use of the river bed and create equestrian and hiking pathways if they can be compatible with a Kit Fox corridor and private property rights. Create an alternative motorcycle park out of river bed. The County should create a fund to acquire river bottom land to be placed in an easement, park, or other enforceable protected status.

- Create a developer and community supported fund to upgrade community unpaved streets.

TRANSPORTATION

- The General Plan should recommend the realignment of Highway 41 to skirt Shandon and join Hwy 46 west of town.

- Limit housing to numbers that will not create traffic problems in town or at McMillan Canyon Road.

- Improve downtown parking to avoid parked vehicles interfering with traffic flow.

- Require developers to help fund improved Highway 46 access at McMillan Canyon Road. When Highway 46 is widened to four lanes, there will need to be an overpass or other safety improvement to allow Shandon residents to safely cross the east bound traffic and merge with the west bound traffic.

- Require developers to help fund a wider highway 41 bridge over the San Juan River to accommodate separated pedestrian and bike lanes.

- Require road setbacks to ensure that existing local rural roads can be adequately widened to accommodate increased traffic.

Appendix B

Infrastructure and Utilities

Technical Appendix

7.1 Water Resources

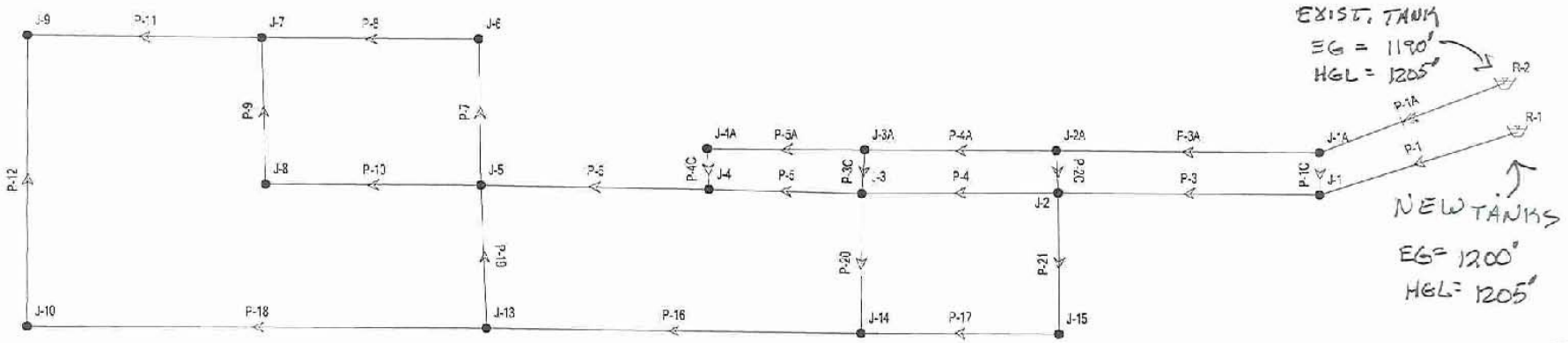
The pipe sizes for the backbone system were designed using California Code of Regulations, Title 22 requirements as outlined in the CSA 16 Water System Master Plan. These requirements are as follows: system pressures should not fall below 20 psi for maximum day demands plus fire demands, and should not fall below 30 psi under peak hour demands. There are three types of fire flow requirements in the 20 year plan area; schools require a fire flow of 2,750 gpm for two hours, commercial development requires a fire flow of 2,000 gpm for two hours, and residential areas require a fire flow of 1,000 gpm for two hours.

Load calculations were based on a population of 8,200 and 3.66 residents per household or approximately 2,240 households. The average yearly consumption per household was assumed to be 0.5 acre-ft/household/year. The average daily demand is estimated to be 1.0 million gallons per day (mgd), with a maximum daily demand estimated at 2.5 mgd, with a peak hour demand of 208,000 gph (5.0 mgd).

The loading for the water system analysis model was estimated based on population distribution considering the Land Use Plan for 8,200 persons and the Shandon Master Plan Areas (Figure 3.2)

The storage capacity requirements for the buildout population were calculated using the criteria outlined in section 5.3 of the CSA 16 Water System Master Plan. The storage capacity needs to meet three volume requirements: equalization storage, emergency storage, and fire storage. Equalization storage is the storage required to meet peak hour demands in excess of available supply for a 14-hour duration. Emergency storage is the volume of water required to sustain sanitary needs (50 gpd) for three days in the event an emergency cuts off the normal water supply. Fire storage is the storage required to meet the highest fire-flow demand in the CSA 16 water system. The maximum fire demand would be 2,750 gpm for two hours for the existing school building.

Scenario: PHD



Scenario: PHD
Steady State Analysis
Junction Report

Label	Elevation (ft)	Demand (Calc'd) (gpm)	Calc'd HGL (ft)	Pressure (psi)	Zone	Type	Base Flow (gpm)	Pattern
J-1	1,055.00	0.00	1,186.52	56.90	Zone	Demand	0.00	Fixed
J-2	1,045.00	466.00	1,174.20	55.90	Zone	Demand	466.00	Fixed
J-3	1,040.00	210.00	1,166.59	54.77	Zone	Demand	210.00	Fixed
J-4	1,035.00	170.00	1,163.45	55.57	Zone	Demand	170.00	Fixed
J-5	1,040.00	360.00	1,159.95	51.90	Zone	Demand	360.00	Fixed
J-6	1,035.00	406.00	1,157.23	52.88	Zone	Demand	406.00	Fixed
J-7	1,050.00	256.00	1,155.50	45.65	Zone	Demand	256.00	Fixed
J-8	1,065.00	106.00	1,155.94	39.34	Zone	Demand	106.00	Fixed
J-9	1,055.00	296.00	1,154.03	42.85	Zone	Demand	296.00	Fixed
J-10	1,065.00	170.00	1,154.38	38.67	Zone	Demand	170.00	Fixed
J-13	1,045.00	320.00	1,159.98	49.74	Zone	Demand	320.00	Fixed
J-14	1,045.00	256.00	1,163.74	51.37	Zone	Demand	256.00	Fixed
J-15	1,060.00	466.00	1,165.59	45.68	Zone	Demand	466.00	Fixed
J-1A	1,055.00	0.00	1,186.52	56.90	Zone	Demand	0.00	Fixed
J-2A	1,045.00	0.00	1,174.20	55.90	Zone	Demand	0.00	Fixed
J-3A	1,040.00	0.00	1,166.59	54.77	Zone	Demand	0.00	Fixed
J-4A	1,035.00	0.00	1,163.46	55.58	Zone	Demand	0.00	Fixed

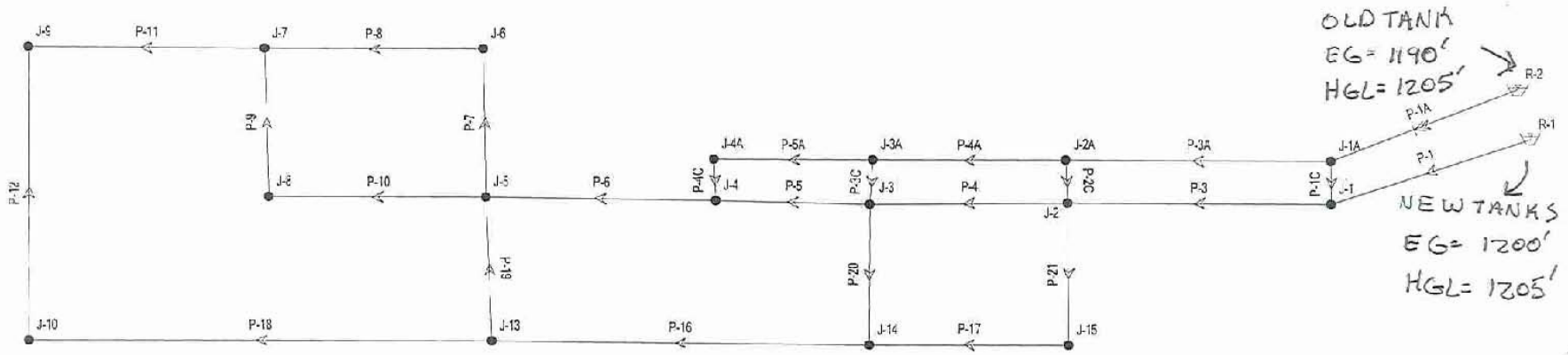
Scenario: PHD
Steady State Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Mat'l	Mannings n	Check Valve?	Velocity (ft/s)	Control Status	Discharge (gpm)	US Structure HGL (ft)	DS/HGL (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,200.00	12.0	PVC	0.012	false	6.12	Open	2,156.06	1,205.00	1,186.52	18.48	15.40
P-3	800.00	12.0	PVC	0.012	false	6.12	Open	2,156.19	1,186.52	1,174.20	12.32	15.40
P-4	1,300.00	12.0	PVC	0.012	false	3.77	Open	1,329.02	1,174.20	1,166.59	7.61	5.85
P-5	1,200.00	12.0	PVC	0.012	false	2.52	Open	889.41	1,166.59	1,163.45	3.14	2.62
P-6	1,500.00	14.0	PVC	0.012	false	2.64	Open	1,265.62	1,163.45	1,159.95	3.50	2.33
P-7	600.00	10.0	PVC	0.012	false	2.94	Open	719.67	1,159.95	1,157.23	2.72	4.54
P-8	2,000.00	10.0	PVC	0.012	false	1.28	Open	313.67	1,157.23	1,155.50	1.72	0.86
P-9	600.00	8.0	PVC	0.012	false	1.01	Open	158.02	1,155.94	1,155.50	0.43	0.72
P-10	2,000.00	8.0	PVC	0.012	false	1.69	Open	264.02	1,159.95	1,155.94	4.01	2.01
P-11	1,100.00	8.0	PVC	0.012	false	1.38	Open	215.69	1,155.50	1,154.03	1.47	1.34
P-12	1,900.00	8.0	PVC	0.012	false	0.51	Open	-80.31	1,154.03	1,154.38	0.35	0.19
P-15	2,700.00	12.0	PVC	0.012	false	1.84	Open	648.38	1,163.74	1,159.98	3.76	1.39
P-17	1,300.00	10.0	PVC	0.012	false	1.65	Open	-403.52	1,163.74	1,165.59	1.85	1.43
P-18	3,100.00	8.0	PVC	0.012	false	1.60	Open	250.31	1,159.98	1,154.38	5.59	1.80
P-19	1,300.00	12.0	PVC	0.012	false	0.22	Open	-78.07	1,159.95	1,159.98	0.03	0.02
P-20	1,300.00	10.0	PVC	0.012	false	2.05	Open	500.86	1,166.59	1,163.74	2.86	2.20
P-21	1,300.00	10.0	PVC	0.012	false	3.55	Open	869.52	1,174.20	1,165.59	8.61	6.62
P-3A	800.00	10.0	PVC	0.012	false	5.42	Open	1,325.81	1,186.52	1,174.20	12.32	15.40
P-4A	1,300.00	10.0	PVC	0.012	false	3.34	Open	817.47	1,174.20	1,166.59	7.61	5.85
P-1C	10.00	14.0	PVC	0.012	false	0.00	Open	0.13	1,186.52	1,186.52	0.00	0.00
P-2C	10.00	14.0	PVC	0.012	false	1.06	Open	508.35	1,174.20	1,174.20	0.00	0.38
P-3C	10.00	14.0	PVC	0.012	false	0.57	Open	271.26	1,166.59	1,166.59	0.00	0.11
P-5A	1,200.00	10.0	PVC	0.012	false	2.23	Open	546.21	1,166.59	1,163.46	3.14	2.61
P-4C	10.00	12.0	PVC	0.012	false	1.55	Open	546.21	1,163.46	1,163.45	0.01	0.99
P-1A	1,200.00	10.0	PVC	0.012	true	5.42	Open	1,325.94	1,205.00	1,186.52	18.48	15.40

Scenario: PHD
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	1,205.00	Zone	2,156.06	1,205.00
R-2	1,205.00	Zone	1,325.94	1,205.00

Scenario: MDD



Scenario: MDD
Fire Flow Analysis
Fire Flow Report

Label	Zone	Fire Flow Iterations	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Needed Fire Flow (gpm)	Min. Zone Pressure (psi)	Residual Pressure (psi)	Total Flow Needed (gpm)	Calculated Residual Pressure @ Total Flow Needed (psi)	Calculated Minimum Zone Pressure @ Total Flow Needed (psi)	Calculated Minimum Zone Junction @ Total Flow Needed	Total Flow Available (gpm)	Available Fire Flow (gpm)	Calculated Residual Pressure (psi)	Calculated Minimum Zone Pressure (psi)	Minimum Zone Junction
J-1	Zone	3	true	true	2,000.00	20.00	20.00	2,000.00	55.67	47.87	J-10	5,000.00	5,000.00	34.92	27.13	J-10
J-2	Zone	8	true	true	2,000.00	20.00	20.00	2,233.00	53.84	43.05	J-10	4,404.91	4,171.91	30.79	20.00	J-10
J-3	Zone	8	true	true	2,000.00	20.00	20.00	2,105.00	50.87	38.88	J-10	3,517.10	3,412.10	31.85	20.00	J-10
J-4	Zone	14	true	true	1,000.00	20.00	20.00	1,085.00	61.33	47.64	J-10	3,154.29	3,069.29	33.30	20.01	J-8
J-5	Zone	7	true	true	2,750.00	20.00	20.00	2,930.00	32.25	21.15	J-8	2,991.98	2,811.98	31.09	20.00	J-8
J-6	Zone	7	true	true	2,000.00	20.00	20.00	2,203.00	39.79	29.17	J-8	2,663.93	2,460.93	29.31	20.00	J-8
J-7	Zone	5	true	true	2,000.00	20.00	20.00	2,128.00	25.47	22.12	J-8	2,211.26	2,083.26	23.12	20.00	J-8
J-8	Zone	4	true	true	1,000.00	20.00	20.00	1,053.00	40.69	43.97	J-10	1,842.99	1,789.99	20.01	30.79	J-10
J-9	Zone	4	true	true	1,000.00	20.00	20.00	1,148.00	39.58	38.74	J-10	1,708.04	1,560.04	20.00	23.60	J-10
J-10	Zone	4	true	true	1,000.00	20.00	20.00	1,085.00	33.25	43.11	J-9	1,431.61	1,346.61	20.00	34.49	J-9
J-13	Zone	7	true	true	2,750.00	20.00	20.00	2,910.00	28.55	20.12	J-10	2,916.18	2,756.18	28.42	20.00	J-10
J-14	Zone	8	true	true	1,000.00	20.00	20.00	1,128.00	56.96	47.79	J-10	3,284.31	3,156.31	26.37	20.00	J-10
J-15	Zone	3	true	true	2,750.00	20.00	20.00	2,983.00	24.83	30.05	J-10	3,225.76	2,992.76	20.01	26.85	J-10
J-1A	Zone	3	true	true	2,000.00	20.00	20.00	2,000.00	55.66	47.87	J-10	5,000.00	5,000.00	34.90	27.13	J-10
J-2A	Zone	8	true	true	2,000.00	20.00	20.00	2,000.00	53.84	43.05	J-10	4,172.31	4,172.31	30.77	20.00	J-10
J-3A	Zone	14	true	true	2,000.00	20.00	20.00	2,000.00	50.86	38.88	J-10	3,411.59	3,411.59	31.84	20.01	J-10
J-4A	Zone	14	true	true	1,000.00	20.00	20.00	1,000.00	61.33	47.64	J-10	3,070.33	3,070.33	33.25	20.01	J-8

Scenario: MDD
Fire Flow Analysis
Junction Report

Label	Elevation (ft)	Demand (Calc'd) (gpm)	Calc'd HGL (ft)	Pressure (psi)	Zone	Type	Base Flow (gpm)	Pattern
J-1	1,055.00	0.00	1,200.38	62.90	Zone	Demand	0.00	Fixed
J-2	1,045.00	233.00	1,197.30	65.89	Zone	Demand	233.00	Fixed
J-3	1,040.00	105.00	1,195.40	67.23	Zone	Demand	105.00	Fixed
J-4	1,035.00	85.00	1,194.61	69.06	Zone	Demand	85.00	Fixed
J-5	1,040.00	180.00	1,193.74	66.51	Zone	Demand	180.00	Fixed
J-6	1,035.00	203.00	1,193.06	68.38	Zone	Demand	203.00	Fixed
J-7	1,050.00	128.00	1,192.63	61.71	Zone	Demand	128.00	Fixed
J-8	1,065.00	53.00	1,192.73	55.26	Zone	Demand	53.00	Fixed
J-9	1,055.00	148.00	1,192.26	59.38	Zone	Demand	148.00	Fixed
J-10	1,065.00	85.00	1,192.35	55.10	Zone	Demand	85.00	Fixed
J-13	1,045.00	160.00	1,193.74	64.35	Zone	Demand	160.00	Fixed
J-14	1,045.00	128.00	1,194.68	64.76	Zone	Demand	128.00	Fixed
J-15	1,060.00	233.00	1,195.15	58.47	Zone	Demand	233.00	Fixed
J-1A	1,055.00	0.00	1,200.38	62.90	Zone	Demand	0.00	Fixed
J-2A	1,045.00	0.00	1,197.30	65.89	Zone	Demand	0.00	Fixed
J-3A	1,040.00	0.00	1,195.40	67.23	Zone	Demand	0.00	Fixed
J-4A	1,035.00	0.00	1,194.61	69.06	Zone	Demand	0.00	Fixed

Scenario: MDD
Fire Flow Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Mat'l	Mannings n	Check Valve?	Velocity (ft/s)	Control Status	Discharge (gpm)	US Structure HGL (ft)	DS/HGL (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,200.00	12.0	PVC	0.012	false	3.06	Open	1,078.03	1,205.00	1,200.38	4.62	3.85
P-3	800.00	12.0	PVC	0.012	false	3.06	Open	1,078.09	1,200.38	1,197.30	3.08	3.85
P-4	1,300.00	12.0	PVC	0.012	false	1.89	Open	664.51	1,197.30	1,195.40	1.90	1.46
P-5	1,200.00	12.0	PVC	0.012	false	1.26	Open	444.71	1,195.40	1,194.61	0.79	0.66
P-6	1,500.00	14.0	PVC	0.012	false	1.32	Open	632.81	1,194.61	1,193.74	0.87	0.58
P-7	600.00	10.0	PVC	0.012	false	1.47	Open	359.83	1,193.74	1,193.06	0.68	1.13
P-8	2,000.00	10.0	PVC	0.012	false	0.64	Open	156.83	1,193.06	1,192.63	0.43	0.22
P-9	600.00	8.0	PVC	0.012	false	0.50	Open	79.01	1,192.73	1,192.63	0.11	0.18
P-10	2,000.00	8.0	PVC	0.012	false	0.84	Open	132.01	1,193.74	1,192.73	1.00	0.50
P-11	1,100.00	8.0	PVC	0.012	false	0.69	Open	107.85	1,192.63	1,192.26	0.37	0.33
P-12	1,900.00	8.0	PVC	0.012	false	0.26	Open	-40.15	1,192.26	1,192.35	0.09	0.05
P-16	2,700.00	12.0	PVC	0.012	false	0.92	Open	324.19	1,194.68	1,193.74	0.94	0.35
P-17	1,300.00	10.0	PVC	0.012	false	0.82	Open	-201.76	1,194.68	1,195.15	0.46	0.36
P-18	3,100.00	8.0	PVC	0.012	false	0.80	Open	125.15	1,193.74	1,192.35	1.40	0.45
P-19	1,300.00	12.0	PVC	0.012	false	0.11	Open	-39.03	1,193.74	1,193.74	0.01	0.00
P-20	1,300.00	10.0	PVC	0.012	false	1.02	Open	250.43	1,195.40	1,194.68	0.71	0.55
P-21	1,300.00	10.0	PVC	0.012	false	1.78	Open	434.76	1,197.30	1,195.15	2.15	1.66
P-3A	800.00	10.0	PVC	0.012	false	2.71	Open	662.91	1,200.38	1,197.30	3.08	3.85
P-4A	1,300.00	10.0	PVC	0.012	false	1.67	Open	408.73	1,197.30	1,195.40	1.90	1.46
P-1C	10.00	14.0	PVC	0.012	false	0.00	Open	0.06	1,200.38	1,200.38	0.00	0.00
P-2C	10.00	14.0	PVC	0.012	false	0.53	Open	254.17	1,197.30	1,197.30	0.00	0.10
P-3C	10.00	14.0	PVC	0.012	false	0.28	Open	135.63	1,195.40	1,195.40	0.00	0.02
P-5A	1,200.00	10.0	PVC	0.012	false	1.12	Open	273.10	1,195.40	1,194.61	0.78	0.65
P-4C	10.00	12.0	PVC	0.012	false	0.77	Open	273.10	1,194.61	1,194.61	0.00	0.24
P-1A	1,200.00	10.0	PVC	0.012	true	2.71	Open	662.97	1,205.00	1,200.38	4.62	3.85

Scenario: MDD
Fire Flow Analysis
Pipe Report

Label	Length (ft)	Diameter (in)	Mat'l	Mannings n	Check Valve?	Velocity (ft/s)	Control Status	Discharge (gpm)	US Structure HGL (ft)	DS/HGL (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)
P-1	1,200.00	12.0	PVC	0.012	false	3.06	Open	1,078.03	1,205.00	1,200.38	4.62	3.85
P-3	800.00	12.0	PVC	0.012	false	3.06	Open	1,078.09	1,200.38	1,197.30	3.08	3.85
P-4	1,300.00	12.0	PVC	0.012	false	1.89	Open	664.51	1,197.30	1,195.40	1.90	1.46
P-5	1,200.00	12.0	PVC	0.012	false	1.26	Open	444.71	1,195.40	1,194.61	0.79	0.66
P-6	1,500.00	14.0	PVC	0.012	false	1.32	Open	632.81	1,194.61	1,193.74	0.87	0.58
P-7	600.00	10.0	PVC	0.012	false	1.47	Open	359.83	1,193.74	1,193.06	0.68	1.13
P-8	2,000.00	10.0	PVC	0.012	false	0.64	Open	156.83	1,193.06	1,192.63	0.43	0.22
P-9	600.00	8.0	PVC	0.012	false	0.50	Open	79.01	1,192.73	1,192.63	0.11	0.18
P-10	2,000.00	8.0	PVC	0.012	false	0.84	Open	132.01	1,193.74	1,192.73	1.00	0.50
P-11	1,100.00	8.0	PVC	0.012	false	0.69	Open	107.85	1,192.63	1,192.26	0.37	0.33
P-12	1,900.00	8.0	PVC	0.012	false	0.26	Open	-40.15	1,192.26	1,192.35	0.09	0.05
P-16	2,700.00	12.0	PVC	0.012	false	0.92	Open	324.19	1,194.68	1,193.74	0.94	0.35
P-17	1,300.00	10.0	PVC	0.012	false	0.82	Open	-201.76	1,194.68	1,195.15	0.46	0.36
P-18	3,100.00	8.0	PVC	0.012	false	0.80	Open	125.15	1,193.74	1,192.35	1.40	0.45
P-19	1,300.00	12.0	PVC	0.012	false	0.11	Open	-39.03	1,193.74	1,193.74	0.01	0.00
P-20	1,300.00	10.0	PVC	0.012	false	1.02	Open	250.43	1,195.40	1,194.68	0.71	0.55
P-21	1,300.00	10.0	PVC	0.012	false	1.78	Open	434.76	1,197.30	1,195.15	2.15	1.66
P-3A	800.00	10.0	PVC	0.012	false	2.71	Open	662.91	1,200.38	1,197.30	3.08	3.85
P-4A	1,300.00	10.0	PVC	0.012	false	1.67	Open	408.73	1,197.30	1,195.40	1.90	1.46
P-1C	10.00	14.0	PVC	0.012	false	0.00	Open	0.06	1,200.38	1,200.38	0.00	0.00
P-2C	10.00	14.0	PVC	0.012	false	0.53	Open	254.17	1,197.30	1,197.30	0.00	0.10
P-3C	10.00	14.0	PVC	0.012	false	0.28	Open	135.63	1,195.40	1,195.40	0.00	0.02
P-5A	1,200.00	10.0	PVC	0.012	false	1.12	Open	273.10	1,195.40	1,194.61	0.78	0.65
P-4C	10.00	12.0	PVC	0.012	false	0.77	Open	273.10	1,194.61	1,194.61	0.00	0.24
P-1A	1,200.00	10.0	PVC	0.012	true	2.71	Open	662.97	1,205.00	1,200.38	4.62	3.85

Scenario: MDD
Fire Flow Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Calculated Hydraulic Grade (ft)
R-1	1,205.00	Zone	1,078.03	1,205.00
R-2	1,205.00	Zone	-662.97	1,205.00

FROM 2001 CENSUS DATA, CAPITA / HOUSEHOLD (LOT) = 3.66

TOTAL PROJECTED POPULATION FOR THIS PHASE = 8200 PPL

TOTAL LOTS = PPL / CAPITA PER LOT = 2240 LOTS

PER LOT DEMAND = 0.5 AFY/LOT

= 446 GPD/LOT

TOTAL:

AVERAGE DAY DEMAND = PER LOT DEMAND x TOTAL LOTS 999,997 GPD

MAXIMUM DAY DEMAND = AVG DAY DEMAND X DAILY PEAKING FACTOR

= 999,997 X 2.50 *CALCULATED*

= **2,499,992 GPD** = **1,736 GPM**

PEAK HOUR DEMAND = MAX DAY DEMAND X PEAK HOUR PEAKING FACTOR / 24

= 2,499,992 X 2 / 24 =

= **208,333 GPH**

EQUALIZATION STORAGE:

ASSUMPTION: PEAK HOUR DEMAND IN EXCESS OF SUPPLY OCCURS FOR 14 HOUR

WELL INFORMATION:

	SUSTAINED PUMPING RATE	
WELL 3	500 GPM	EXISTING CSA 16 WELL
WELL 4	300 GPM	EXISTING CSA 16 WELL
ARCIERO 1	500 GPM	ASSUMED RATE (NEW WELL MEASURED AT 800 GPM)
Future Well 2	500 GPM	ASSUMED RATE
Future Well 3	500 GPM	ASSUMED RATE
TOTAL	2,300 GPM	

RATE OF SUPPLY = 1,800 x 0.8 (RATE OF SUPPLY ASSUMES

1,440 GPM LARGEST WELL IS OFF LINE)

= 86,400 GPH

EQUALIZATION STORAGE = (PEAK HOUR DEMAND - RATE OF SUPPLY) x 14 HRS

= **1,707,057 GALLONS**

EMERGENCY STORAGE:					
MINIMUM SANITARY SUPPLY =	50	GALLONS PER PERSON FOR	3	DAYS	
TOTAL POPULATION =	8200				
EMERGENCY STORAGE	=	**1,230,000**	**GALLONS**		

FIRE FLOW:					
MAX FIRE FLOW DEMAND =	2750	GPM FOR	2	HOURS	
FIRE FLOW	=	**330,000**	**GALLONS**		

TOTAL BUILD OUT STORAGE REQUIRED =					
1,707,057	+	1,230,000	+	330,000	
	=	**3,267,057**	**GALLONS**		

EXISTING STORAGE:			
EXISTING CSA-16 TANK	=	**212,000**	**GALLONS**

ADDITIONAL STORAGE REQUIRED:			
= TOTAL STORAGE REQUIRED - EXISTING STORAGE			
	=	**3,055,057**	**GALLONS**

7.2 Wastewater

The Wallace Group recommended that the treatment facilities be built in 0.5 million gallons per day (mgd) phases, with additional phases to be added to the system as the population increases with future development. The Wallace Group assumed a per capita loading of 80 gallons per day (gpd) which correlates to each 0.5 mgd phase being able to serve a population of approximately 5,000 people; each 0.5 mgd phase would require approximately 4.6 acres of treatment ponds, 2.5 acres of percolation/storage ponds, and 50 acres for irrigating with recycled water. A 1.0 mgd treatment facility would be required to serve a population of about 8,200.

It is recommended that areas for using recycled water from the treatment facilities be located as close to the treatment plant as possible to reduce infrastructure costs. These fields will need to be secured by either an ownership or a perpetual easement agreement reviewed and renewed by the County or the operating authority. Possible locations of have been identified on the Waste Water System Plan for both locations.

Secondary effluent is the most common level of treatment, and the Regional Water Quality Control Board (RWQCB) requires that only non-food groups be eligible for the irrigation. Tertiary treatment is being considered as a treatment process for Shandon. Tertiary treatment allows for reuse of the wastewater for irrigation of landscape areas, commercial sale, surface discharge and irrigation of food groups.

Construction of the wastewater improvements in the Plan Area will be phased with new development. Fallingstar Phase 1 is anticipated to be the first major development in the Plan Area. The May 2005 Wallace Group report determined that buildout of the Fallingstar Phase 1 development will require a 0.2 mgd treatment plant to be constructed as part of this development. A more detailed design of the treatment plant and pipe sizes will identify the appropriate phasing and sizing of the treatment facility at the time improvement plans are being prepared. Additional improvements that are not backbone pipelines will be on a tract-by-tract basis, and pipe sizes will be confirmed at the time of improvement plan submittal.

Preliminary Sewer Pipe Sizing

- Preliminary pipe capacities were determined using procedures from Section 7.1 from San Luis Obispo County Standards (2007).
- The Average Daily Demand (ADD) was selected to be consistent with flows used to design the proposed AIPS waste water treatment plant.
- The Peak Daily Demand (PDD) was calculated using a peaking factor of 2 X ADD.
- The Peak Hourly Demand (PHD) was calculated using an hourly peaking factor of 2 x PDD.
- All facilities were designed to accommodate a potential build out population of 8,200 in the 20 year plan area
- Sewer pipes were sized to be ½ full for peak flow (3/4 full for pipes larger than 15") at PDD, assuming PVC construction (n = 0.012), and 0.5% slope.
- Lift stations were designed for the PHD

ADD = 80 GPD/Person = 0.056 GPM/Person PDD = 160
GPD/Person = 0.125 GPM/Person PHD = 320
GPD/Person = 0.250 GPM/Person

Location	Population	Location	Population
Arciero 1	2,100	Peaceful Valley	500
Arciero 2	1,000	Peck	1,900
Cholame	100	Heights	500
Estrella	700	San Juan	500
Gateway	400	Truesdale	500
		Total	**8,200**

Pipe Size	Slope	Q	Vel/(Vel Min)	POPULATION
(Inches)	*(%)*	*(GPM)*	*(FPS)*	
8	0.5	208	2.7	1,650
10	0.5	377	3.1	3,000
12	0.5	612	3.5	4,900
15	0.5	1,110	4.0	8,900
18	0.5	3,293	5.2	31,000

Lift Station and Force Main Design

Lift Station	Load (People)	Load (GPM)	Pipe Size (Inch)
Copelan-LS#1	2,700	700	8
Copelan-LS#2	2,000	500	6
Copelan-LS#3	8,200	2,100	10
Peck 1-LS#1	4,800	1,200	8
Peck 1-LS#2	1,200	300	6
Peck 1-LS#3	3,700	1,000	8
Peck 2-LS#1	8,200	2,100	10
Peck 2-LS#2	1,200	300	6
Peck 2-LS#3	3,700	1,000	8
San Juan-LS#1	2,800	700	8
San Juan-LS#2	1,500	375	6
San Juan-LS#3	2,200	550	8
San Juan-LS#4	1,700	425	6

Force main were sized to carry the Peak Hourly Demand using the Flow Master computer program assuming an operating pressure of 50 psi and an elevation difference (Lift) of 30′

Note: The sizing of all sewer facilities is approximate and assumed potential population densities and development locations. A more detailed analysis should be performed when these variables have been clarified.

7.3 Storm water

The backbone storm drain system was designed to convey the 50-year peak flows from the Plan Area. The hydrology used in this analysis was calculated using the rational method as described in the San Luis Obispo County Department of Public Works Public Improvement Standards and Standard Construction Drawings (2007 edition). The backbone pipes were designed using Manning's equation with an assumed slope of 1% and flowing full. A more detailed analysis should be performed before construction to confirm pipe capacities. It is possible that smaller pipes may be adequate when analyzed as pressure pipes as long as the HGL is at least 6" below the rim or grate elevations of any drainage structures.

Q50 Calculations and Preliminary Backbone Sizing

Hydrology

(H-1) Map = 13"/year

(H-4) Table 1 i_{50} - 10 min. = 2.2 in./hr. i_{50} – 15 min. = 1.9 in./hr.

i_{50} 30 min. = 1.3 in./hr.

(H-2) Tc 1) H = 60', L = 3700' Tc = 20 min. (use 15 min.) i_{50} = 1.9 in./hr.

2) H = 120', L = 3600' Tc = 15 min. i_{50} = 1.9 in./hr.

3) H = 370', L = 5000' Tc = 15 min. i_{50} = 1.9 in./hr.

4) H = 60', L = 5500' Tc = 30 min. i_{50} = 1.3 in./hr.

(H-3) (H-3a) "C" values assumed clay (soil type "C")

Land Use	Buildout Condition	Slope	C
CR, CS, MV	Commercial	2-10%	(0.80)
PF	(School)	2-10%	(0.50)
MFR	Apartments	2-10%	(0.60)
RSF	Residential 10K-20K SF	2-10%	(0.45)
RS	Residential > 20,000 SF	2-10%	(0.40)
Open (2%-10%)	Open, Fair Cover	2-10% (0.14)	+ (0.06) + (0.08) + (0.06) = 0.34
Open >	10%	10-30% (0.24)	+ (0.06) + (0.08) + (0.08) = 0.46

Composite "C" Values (Cw)

1)

Land Use	Area	C
RSF	40	(0.45)
RS	40	(0.40)
Open 2-10%	65	(0.34)
Open > 10%	40	(0.46)
Total	185 AC	

$$Cw = \frac{(40)(0.45)+(40)(0.40)+65(0.34)+40(0.46)}{185} = 0.40$$

2)

PF	10 AC	(0.50)
MFR	8 AC	(0.60)
RSF	35 AC	(0.45)
CR	2 AC	(0.80)
Open 2-10%	35 AC	(0.34)
Open > 10%	40 AC	(0.46)
Total	130 AC	

$$Cw = \frac{10(0.50) + 8(0.60)+35(0.45)+2(0.80)+35(0.34)+40(0.46)}{130\ AC} = 0.44$$

3)

CR, CS, MU	25 AC	(0.80)
MFR	5 AC	(0.60)
RSF	25 AC	(0.45)
Open 2-10%	65 AC	(0.34)
Open > 10%	70 AC	(0.46)
Total	190 AC	

$$Cw = \frac{25(0.80)+5(0.60)+25(0.45)+65(0.34)+70(0.46)}{190\ AC} = 0.47$$

Cw = 10510.45

4)

Land Use	Area	C	
RSF	105 AC	0.45	(0.34)
Open 2-10%	210 AC	0.34	(0.50)
PF (School)	10 AC	0.50	(0.60)
MFR	5 AC	0.60	
Total	330 AC		

$$Cw = \frac{210(0.34) + 210(0.34) + 10(0.50) + 5(0.60)}{330\ AC} = 0.38$$

Pipe Capacities Using Manning Equation $Q = \frac{1.44}{N} R^{2/3} S^{1/2}$

N = 0.12 (HDPE Pipe) (Pipe Flowing Full)

Size	S = 0.5%	S = 1.0%	S = 1.5%
24"	17 CFS	25 CFS	
36"	51 CFS	73 CFS	
48"	110 CFS	155 CFS	190 CFS
60"	200 CFS	282 CFS	

Results

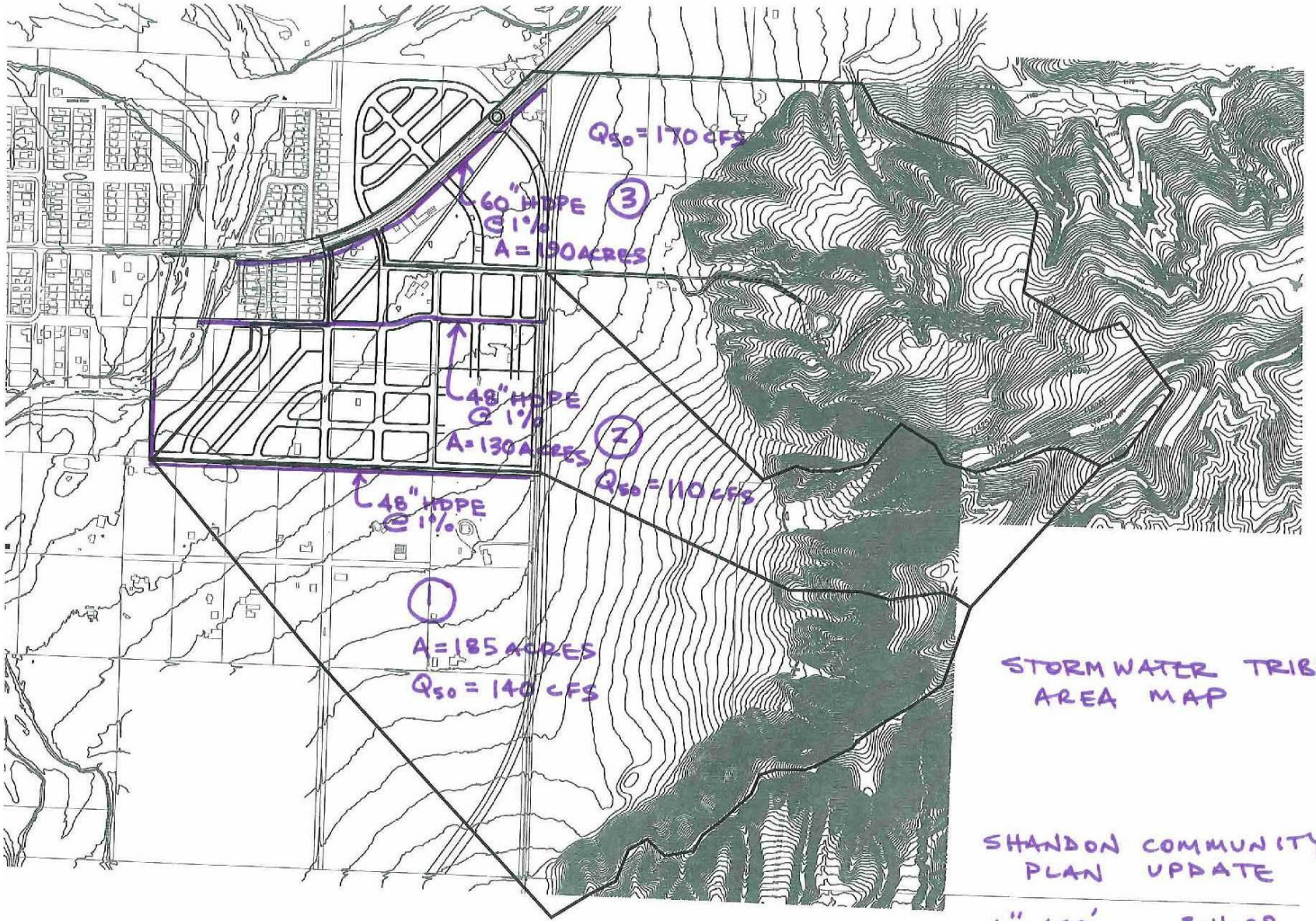
Assumed Pipes at 1%

1) Q_{50} = (0.40)(1.9 in./hr.)(185 AC) = 140 CFS
Use 48" HDPE

2) Q_{50} = (0.44)(1.9 in./hr.)(130 AC) = 109 CFS
Use 48" HDPE

3) Q_{50} = (0.47)(1.9 in./hr.)(190 AC) = 170 CFS
Use 60" HDPE
(Can use 48" @ 1.5%)

4) Q_{50} = (0.38)(1.3 in./hr.) (330 AC) = 165 CFS
Use 60" HDPE



STORMWATER TRIBUTARY AREA MAP

SHANDON COMMUNITY PLAN UPDATE

1" = 600' 5.11.09

7.4 Flood Management

An extensive flood study was performed to determine the 100-year flood boundaries of the Estrella River, San Juan Creek, and Cholame Creek within the Plan Area. This report, entitled "Flood Plain Analysis and Calculations for Phase 1 Arciero Project Shandon CA," dated December 2004, revised May 2008, was prepared by North Coast Engineering, Inc. using the NRCS methodology to determine hydrology and the HEC-RAS computer program by the Army Corps of Engineers to perform a hydraulic analysis of the watercourses. Additional flood information was determined using results from the "Shandon II Flood Hazard Study" by EDA, Inc., dated March 11, 2004. The topographic information used in the EDA study is on the NGVD29 Datum, and was converted to the NAVD 88 Datum by adding 2.6'. This converted topographic information was used to produce section lines that are shown in the following exhibit.

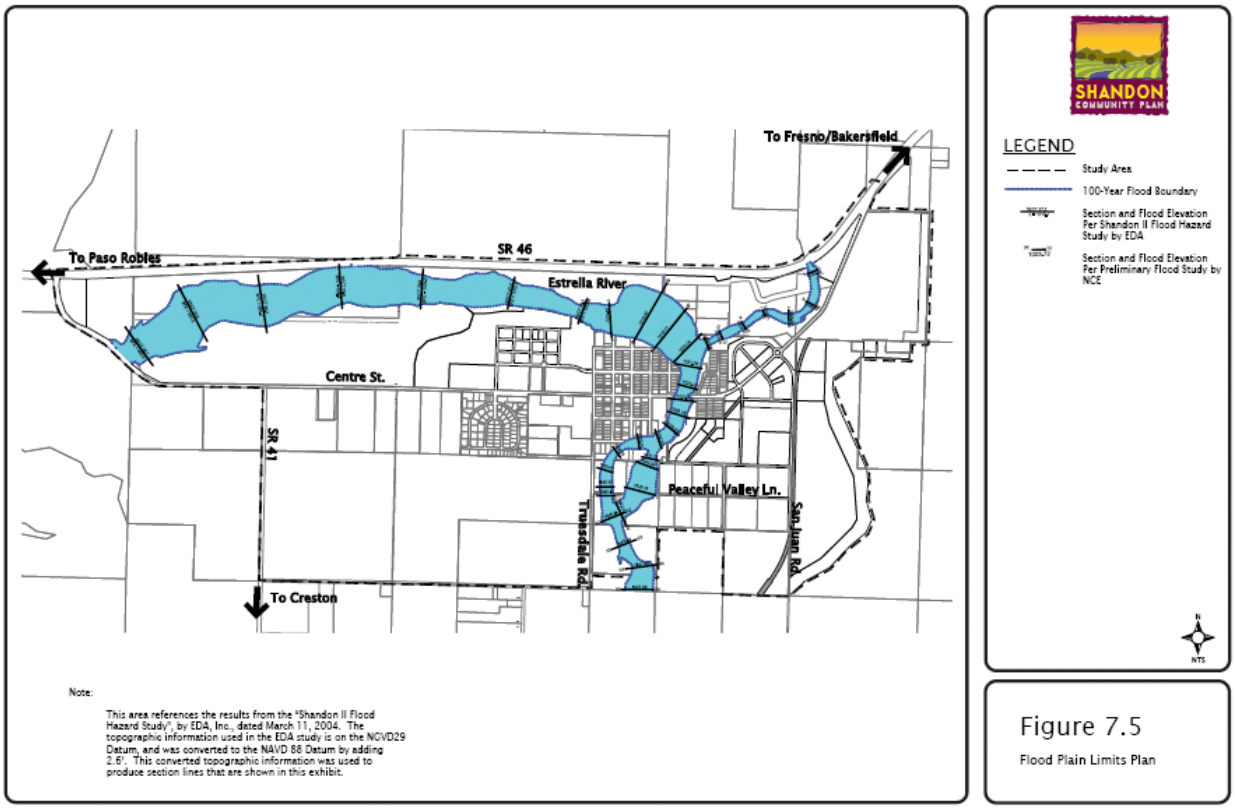


Figure 7.5
Flood Plain Limits Plan

7.5 Utilities

The State Fire Marshall enforces the Safety Act, which establishes a separation requirement of 5-feet horizontal clearance and 12-inch vertical clearance between pipelines and appurtenant structures that may be allowed within the easement. The separation requirement gives operators the ability to visually inspect pipelines and provides access for maintenance and emergency operations.

Appendix C

Shandon Master Tree List with Tree Characteristics

The following table lists the characteristics of tree species that passed screening through both the first and second sets of criteria.

Table III: Tree Characteristics

TERTIARY CRITERIA	Height/ Breadth	Branch Strength	Life Span	Shade Capacity[1]	Shade Tree[2]	Disease Prone	Fall Color	Evergreen	Shape	Texture	Ornamental	Spring Flowering	Allergen/ Irritant	PG & E Approved
SPECIES														
Acacia baileyana/ Bailey Acacia	**to 30´x 40´**	**Weak**	**Short**	**M**	✓	✓	✓	✓	**Broad**		✓	✓	✓	
Acer macrophyllum/ Bigleaf Maple	**to 75´x 50´**	**Medium**	**Long**	**D**	✓	✓	✓		**Oval**				✓	
Acer negundo v. californicum/ California box Elder	**to 60´x 60´+**	**Weak**	**Long**	**D**	✓	✓	✓		**Oval**				✓	
Angophora costata/ Gum Myrtle	**to 50´**	**Medium**	**Long**	**MD**	✓			✓	**Cone**					
Arbutus menziesii/ Madone	**to 100´x 80´**	**Strong**	**Long**	**MD**	✓			✓	**Round**		✓		✓	
Arbutus unedo/Strawberry Tree	**to 35´x 35´**	**Strong**	**Long**	**D**	✓			✓	**Round**		✓		✓	
Brachychiton acerifolius/ Illawarra Flame Tree	**to 60´x 30´**	**Weak**	**Long**	**D**	✓	✓	✓		**Cone**		✓	✓ **10 yrs**	✓	
Calocedrus decurrens /Incense Cedar	**to 90´x 15´**	**Medium**	**Long**	**VD**				✓	**Pyramid**		✓		✓	
Cedrus deodara/ Deodar Cedar	**to 80´x 40´**	**Medium**	**Long**	**MD**	✓			✓	**Pyramid**		✓		✓	
Cercis canadensis/ Eastern Redbud	**to 35´x 35´**	**Medium**	**Long**	**LM**					**Round**		✓	✓	✓	✓
Cercis occidentalis/ Western Redbud	**to 18´x 18´**	**Medium**	**Long**	**M**	✓	✓	✓		**Round**		✓	✓		✓
Chamaecyparis lawsoniana/ Lawson Cypress	**to 60´x 18´**	**Strong**	**Long**	**D**				✓	**Pyramid**		✓		✓	
Eucalyptus cinerea/ Silver Dollar Tree	**to 55´x 45´**	**Unknown**	**Long**	**LM**				✓	**Round**		✓			
Eucalyptus nicholii/ Willow Peppermint	**to 48´x 36´**	**Medium**	**Long**	**MD**	✓			✓	**Oval-Hrzt**					
Eucalyptus polyanthemos/ Silver Dollar Gum	**to 75´x 45´**	**Medium**	**Long**	**M**	✓			✓	**Oval-Vrt**		✓			
Eucalyptus torquata/ Coral Gum	**to 36´x 30´**	**Medium**	**Long**	**M**	✓			✓	**Oval/Open**		✓	✓		
Fraxinus Americana/ White Ash	**to 80´x 50´**	**Medium-Strong**	**Long**	**LM**					**Oval**				✓	
Fraxinus angustifolia (oxycarpa)/ Raywood Ash	**to 35´x 25´**	**Medium**	**Long**	**M**	✓	✓	✓		**Oval-Hrzt**				✓	
Heteromeles arbutifolia/ Toyon	**to 25´x 20´**	**Medium**	**Long**	**D**	✓			✓	**Vase**					✓
Jacaranda mimosifolia/ Jacaranda	**to 50´x 50´**	**Weak**	**Long**	**MD**	✓				**Oval-Hrzt**		✓	✓		
Koelreuteria bipinnata/ Chinese Flame Tree	**to 40´x 40´**	**Medium**	**Medium—Long**	**M**	✓	✓	✓		**Round**		✓	**Late Summer**		
Koelreuteria paniculata/ Golden Raintree	**to 35´x 40´**	**Medium**	**Medium—Long**	**LM**		✓	✓		**Round**		✓	**Mid Summer**	✓	
Lagerstroemia indica/ Crape Myrtle	**to 25´x 25´**	**Medium**	**Medium—Long**	**M**	✓	✓	✓		**Round**		✓	**Summer**		✓
Laurus nobilis/ Sweet Bay	**to 40´x 40´**	**Medium**	**Medium—Long**	**VD[3]**	✓			✓	**Oval-Hrzt**					
Malus 'Prairifire'/ Flowering Crabapple	**to 20´x 15´**	**Unknown**	**Long**	**Not Rated**					**Oval-Hrzt**		✓	✓		✓
Pinus attenuata/ Knobcone Pine	**to 80´x25´**	**Medium**	**Medium—Long**	**D**				✓	**Oval-Vrt**				✓	
Pinus coulteri/ Coulter Pine	**to 80´x 40´**	**Medium**	**Long**	**M**	✓			✓	**Cone-Vrt**				✓	
Pinus monophylla/ Single-leaf Pinion	**to 25´x 15´**	**Medium**	**Long**	**M**	✓			✓	**Round**				✓	✓
Pinus monticola/ Western White Pine	**to 60´x 20´**	**Medium**	**Long**	**M**				✓	**Cone**				✓	

Source: Shandon Area Master Tree Plan – T. Pullen, 2007

[1] Rated by the Urban Forest Ecosystems Institute as low, moderate, or densely leaved.
[2] Must be rated moderate (M) to densely (D) leaved and have a spread at least half of height to be considered a shade tree.
[3] If allowed to grow into a tree

Table III: Tree Characteristics

TERTIARY CRITERIA	Height/ Breadth	Branch Strength	Life Span	Shade Capacity [4]	Shade Tree[5]	Disease Prone	Fall Color	Evergreen	Shape	Texture	Ornamental	Spring Flowering	Allergen/ Irritant	PG & E Approved
SPECIES														
Pinus ponderosa/ Ponderosa Pine	**to 100´x 30´**	**Strong**	**Long**	**M**				✓	**Cone**				✓	
Pinus sabiniana/ Gray Pine	**to 80´x 50´**	**Weak-Medium**	**Medium—Long**	**LM**				✓	**Cone**				✓	
Pistacia chinensis/ Chinese Pistache	**to 60´x 40´**	**Strong**	**Long**	**M**	✓	✓	✓		**Oval-Vrt**		✓		✓	
Platanus acerifolia / London Plane Tree	**to 80´x 40´**	**Strong**	**Long**	**LM-D**					**Oval**				✓	
Platanus racemosa/ California Sycamore	**to 80´x 50´**	**Medium**	**Long**	**M-D**	✓				**Spread**				✓	
Populus fremontii/ Cottonwood	**to 60´x 30´**	**Weak**	**Medium—Long**	**M**	✓	✓	✓		**Round**				✓	
Prunus lyonii/ Catalina Cherry	**to 45´x 30´**	**Medium**	**Long**	**D**	✓	✓	✓	✓	**Varied**					
Prunus ‘Okame’/ Flowering Cherry	**to 25´x 20´**	**Strong**	**Long[6]**	**MD**	✓	✓	✓		**Oval-Vrt**		✓	✓		✓
Pseudotsuga menziesii/ Douglas Fir	**to 160´x 30´**	**Strong**	**Long**	**M**				✓	**Pyramid**				✓	
Pyrus calleryana ‘redspire’/ Redspire Ornamental Pear	**to 35´x 20´**	**Medium**	**Long**	**MD**	✓	✓	✓		**Oval-Vrt**		✓	✓		
Quercus agrifolia/ Coast Live Oak	**to 70´x 70´+**	**Strong**	**Long**	**MD**	✓			✓	**Umbrella**				✓	
Quercus chrysolepis/ Canyon Live Oak	**to 60´x 60´**	**Strong**	**Long**	**MD**	✓			✓	**Round**				✓	
Quercus douglasii/ Blue Oak	**to 50´x 70´**	**Strong**	**Long**	**M**	✓				**Round**				✓	
Quercus kelloggii/ California Black Oak	**to 80´x 80´**	**Strong**	**Long**	**MD**	✓				**Round**				✓	
Quercus lobata/ Valley Oak	**to 70´x 70´**	**Medium-Strong**	**Long**	**M**	✓				**Oval-Hrzt**				✓	
Quercus wislizenii/ Interior Live Oak	**to 75´x 75´+**	**Strong**	**Long**	**D**	✓			✓	**Round**				✓	
Sequoia sempervirens/ Coast Redwood	**to 90´x 30´**	**Strong**	**Long**	**D**	✓			✓ [7]	**Cone**				✓	
Sophora japonica/ Japanese Pagoda Tree	**to 70´x 70´**	**Medium**	**Medium—Long**	**MD**	✓				**Round**					
Thuja plicata/ Western Red Cedar	**to 100´x 60´**	**Medium**	**Long**	**D**	✓			✓	**Cone**					
Umbellularia californica/ California Bay Laurel	**to 25´x 25´**	**Strong**	**Long**	**D**	✓			✓	**Round**				✓	

Source: Shandon Area Master Tree Plan – T. Pullen, 2007

[4] Rated by the Urban Forest Ecosystems Institute as low, moderate, or densely leaved.
[5] Must be rated moderate (M) to densely (D) leaved and have a spread at least half of height to be considered a shade tree.
[6] This according to numerous nurseries (The Urban Forest Ecosystems Institute does not report a rated longevity for this tree).
[7] Many sources disagree with evergreen status

Appendix D

EIR Mitigation Measures

New development shall comply with the following mitigation measures from the *Environmental Impact Report for the Shandon Community Plan Update and San Juan Village (Fallingstar I Project)*. Please refer to Table 9.1 in the Shandon Community Plan. The table identifies the type of development project for which each mitigation measure is required, for example, new land divisions and projects requiring discretionary permits, or projects within a certain Master Plan Area.

AES-1(a) Residential Siting and Design Standards. Residential site locations shall be chosen to minimize aesthetic impacts. Considerations shall include, but not be limited to, the following guidelines as adapted from the Countywide Design Guidelines:

- Lots shall be screened from SR 46 to minimize impacts to visual corridors.

Residential design shall blend new residences and associated improvements into the natural landscapes. This may include, but not be limited to, the following architectural guidelines as adapted from the Countywide Design Guidelines:

- Conformance to existing topography.
- Building materials that blend with the surrounding environment in terms of color, texture, non-reflectivity and scale.
- Avoidance of extensive paved areas in the front yards allowing long-term external storage of vehicles.
- Landscaping that blends into the natural environment and screens the residence from view.
- Walls and fences designed using style, materials, and color to complement the buildings to which they are attached.
- Design of attached multi-family development to avoid monotony and promote visual interest. This may include, but not be limited to, the following:
    - Units that resemble large single family dwellings
    - Varied front setbacks within the same structure
    - Staggered unit plans
    - Use of reverse building plans to add variety
    - Maximum of two adjacent units with identical exterior wall and roof lines
    - A variety of orientations
    - Clustered units
- Articulation in the design of residential buildings and avoidance of long uninterrupted exterior walls. For dwellings with sloped roofs, use of both vertical and horizontal articulation.

Plan Requirements and Timing. Residential location and design shall be subject to review by Planning and Building. Design standards shall be depicted on site plans. Monitoring. Planning and Building shall review site plans prior to issuance of building permits.

AES-1(b) Commercial Design Standards. Commercial design shall blend new structures and associated improvements into the natural landscapes. This may include, but not be limited to, the following architectural guidelines as adapted from the Countywide Design Guidelines:

- Creation of horizontal emphasis to visually break up structures through the use of trim or other elements, adding awnings, eaves or other ornamentation, by using a combination of complimentary colors, and through the use of landscaping.
- Screening of areas to be utilized for storage, refuse, or loading from view of access streets, roadways, or adjacent residences with berms, landscaping, low garden walls, fencing, or a combination of these features.
- Landscaped parking lot areas. In order to provide visual relief, glare reduction, and shade, large-canopy trees are recommended. Native species found within the project vicinity should be used to the greatest extent feasible. Non-native tree species not listed as invasive by the California Invasive Plant Council may also be used if native species are unavailable or are determined to be inappropriate for a specific site.
- Use of alternative foundation systems such as split level, post and beam, etc., and use exterior materials and colors that blend with the surroundings.
- Avoidance of large monument signs and electronic message signs.

Plan Requirements and Timing. Commercial location and design shall be subject to review by Planning and Building. Encroachment associated with the commercial development shall be reviewed by Public Works. Design standards shall be depicted on site plans. Monitoring. Planning and Building shall review site plans prior to issuance of building permits.

AES-1(c) Architectural and Landscape Guidelines. Future applicants shall develop and implement Architectural and Landscape Guidelines that include the components listed below. The Guidelines shall include clear criteria and requirements to guide the design, layout, and

landscaping of individual residential lots. All future development shall comply with the Guidelines.

Tract landscaping. Landscaping guidelines for tract-wide improvements shall describe the following elements:

- Landscaping shall emulate and be compatible with the surrounding natural environment; only natural fiber, biodegradable materials shall be used;
- Fuel management techniques shall be used, including, but not limited to, fire resistive landscaping, defensible space features, and strictly controlled vegetation within defensible space;
- Fire-resistant vegetation shall be used in tract landscaping.

Roofing and Feature Color and Material. Development plans shall include earth-tone colors on structure roofing and other on-site features to lessen potential visual contrast between the structures and the hilly terrain that constitutes the visual backdrop of the area. Natural building materials and colors compatible with surrounding terrain (earthtones and non-reflective paints) shall be used on exterior surfaces of all structures, including fences.

Understory and Retaining Wall Treatment. Understories and retaining walls higher than six (6) feet shall be in tones compatible with surrounding terrain using textured materials or construction methods which create a textured effect.

Plan Requirements and Timing. Draft Design Guidelines shall be submitted to Planning and Building for review and approval prior to final map recordation. Guidelines shall be recorded with the final map for the tract. A copy of the Guidelines shall be submitted with grading, building, and landscaping plans prior to land use permit approval for individual lot development. Monitoring. Planning and Building shall review the Guidelines prior to final recordation. For both tract and individual house projects, Planning and Building shall ensure construction according to plan. Enforcement of compliance with the Guidelines shall be the responsibility of the Planning and Building Department.

AES-1(d) Grading. Grading shall attempt to preserve hillsides and natural topography; grading transitions shall be gentle rather than abrupt.

Plan Requirements and Timing. Future applicants shall submit grading plans to Planning and Building for review and approval prior

to issuance of grading permits. Monitoring. Planning and Building shall review grading plans prior to issuance of grading permits and inspect units prior to occupancy clearance for each phase.

AES-1(e) Roadways and Infrastructure. New roads shall be blended into the landscape and follow existing topography and vegetation patterns. Cut and fill slopes shall be contoured to conform to the prevailing adjacent landforms and landscapes, and drainage swales may be used rather than curbs where approved by Public Works. Utility service for new development shall be underground.

Plan Requirements and Timing. Future applicants shall submit plans depicting new road and utility placement and design, subject to the review and approval of Planning and Building. Monitoring. Planning and Building and Public Works shall approve plans prior to final recordation.

AES-1(f) Wastewater Treatment Plant Design Standards. The proposed wastewater treatment plant shall be screened from the surrounding area with vegetation and earthen berms. Screening shall hide a minimum of eighty percent of the facility as seen from each of the four sides. Berms shall be contour-graded to appear as a natural part of the landscape. Screen planting shall consist of native trees and shrubs planted in natural vegetative patterns.

Plan Requirements and Timing. The San Juan Village (Fallingstar Phase I) applicant shall submit plans depicting screening of the wastewater treatment plant, subject to the review and approval of Planning and Building. Monitoring. Planning and Building shall review plans prior to final recordation.

AES-1(g) Water Storage Tank Design Standards. Water storage tank site locations shall be chosen to minimize impacts to scenic hillside views. Considerations shall include, but not be limited to, the following:

- Storage tanks shall use natural topography to the greatest extent possible to minimize visibility.
- Storage tanks shall be placed partially or fully underground if feasible.

Water storage tank design shall blend into the natural landscape. This may include, but not be limited to, the following design considerations:

- Water tanks shall include earth-tone colors (e.g. browns, greens, tans and blues) that are compatible with the nearby environment to lessen potential visual contrast between the tanks and the hilly terrain that constitutes the visual backdrop of the area. Natural building materials and colors compatible with surrounding terrain (earth tones and non-reflective paints) shall be used on exterior surfaces of all structures, including fences.
- If water storage tanks cannot be placed underground, they shall be screened from view by native trees.

Plan Requirements and Timing. The San Juan Village (Fallingstar Phase I) applicant shall submit plans depicting the location, grading, and screening of the water tanks, subject to the review and approval of Planning and Building. Monitoring. Planning and Building shall review plans prior to final recordation.

AES-3(a) Lighting. Prior to issuance of construction permits, future applicants shall submit a comprehensive lighting plan to the County Department of Planning and Building for review and approval. The lighting plan shall be prepared by a qualified engineer who is an active member of the Illuminating Engineering Society of North America. Streetlight location, type, and documentation of ongoing maintenance shall be provided to and approved by Public Works. The lighting plan shall be prepared using guidance and best practices endorsed by the International Dark Sky Association. The lighting plan shall include the following in conjunction with other measures as determined by the illumination engineer:

- New lighting shall be oriented away from sensitive uses, and shall be hooded, shielded, and located to direct light pools downward and prevent glare.
- All exterior lighting shall be designed as part of the overall architectural concept. Fixtures, standards and all exposed accessories shall be harmonious with the building design, the lighting design and hardware of the public spaces, and the overall visual environment of the County.
- No electronic message signs shall be used.
- Lighting shall be used for safety and security to illuminate building entrances, parking and loading areas, and pedestrian walkways.
- Light fixtures with exposed light bulbs shall be avoided.
- All light fixtures shall be shielded to confine the spread of light within the residential subdivision boundaries.

Plan Requirements and Timing. Future applicants shall submit lighting plans to Planning and Building for review and approval prior to issuance of building permits. Monitoring. Planning and Building shall review all lighting plans prior to issuance of building permits.

AES-3(b) Low Glare Materials. Finish materials, including glazing, shall be of a low reflectivity to minimize glare. Development shall include low reflectivity glass, subdued colors for building materials in high visibility areas, and the use of plant material along the perimeter of the structures to soften views.

Plan Requirements and Timing. Future applicants shall submit development plans to Planning and Building for review and approval prior to issuance of land use permits. Monitoring. Permit Compliance shall inspect structures upon completion to ensure compliance with approved plans.

AES-3(c) Street Light Limitations. Streetlights shall be pedestrian in scale, not to exceed a height of ten feet, and shall be architecturally compatible with surrounding development. Streetlights, where they are included, shall be primarily for pedestrian safety (at roadway intersections only), and shall not provide widespread illumination nor glare towards the roadway or buildings.

Plan Requirements and Timing. Future applicants shall submit tract lighting plans, where applicable, for review and approval of Planning and Building and Public Works prior to issuance of building permits. Individual lot developers shall submit lot lighting plans subject to the review and approval of Planning and Building prior to approval of building permits. Monitoring. Planning and Building and Public Works shall site inspect prior to occupancy clearance.

AG-1(a) Reduction of Premature Agricultural Conversion. To reduce premature conversion of prime agricultural lands, including those currently under a Williamson Act Contract, the following policy shall be added to the proposed Community Plan Update:

> The County shall develop specific priority rankings for the appropriate timing and location of agricultural conversion in consultation with the Agricultural Department. The factors used to determine these rankings may include, but would not be limited to, the following:

- Development of vacant land within urban areas before agricultural land outside of the urban area;
- Adjacency to existing urban or suburban development;
- Prioritized protection of prime land before non-prime land; and
- Prioritized protection for certain agricultural uses (e.g., row crop terrain and soils, specialty crops and forage lands, dry farm lands, and rangelands for grazing).

Plan Requirements and Timing. Prior to adoption of the Shandon Community Plan, County Planning and Building shall add the referenced policy. Monitoring. Planning and Building shall ensure that future agricultural conversion in the Shandon area is consistent with established priority rankings.

AG-1(b) Farmland Conservation. Prior to the map recordation, future applicants for projects located on prime agricultural land in areas currently designated for Agriculture shall provide evidence to the County Planning and Building Department that a farmland conservation easement, a farmland deed restriction, or other farmland conservation mechanism has been granted in perpetuity to the County or a qualifying entity approved by the County Agricultural Commissioner (or designee). The easement shall provide conservation acreage at a ratio of 1:1 for direct impacts and 0.5:1 for indirect impacts. Additionally, the project proponent shall provide appropriate funds (as determined by the County Planning Department) to compensate for reasonable administrative costs incurred by the easement holder. The area conserved may consist of no more than three noncontiguous parcels, and shall be of a quality that is reasonably (as determined by the Agricultural Commissioner or designee) similar to that of the farmland within the proposed 20-year growth boundary. The area shall be located within San Luis Obispo County within a reasonable proximity to the Study Area.

Plan Requirements and Timing. Evidence of an approved farmland conservation easement, farmland deed restriction, or other farmland conservation mechanism shall be submitted to Planning and Building prior to map recordation. Monitoring. Planning and Building shall not issue land use permits until the project applicant has demonstrated compliance with this measure.

Subject to the approval of the Agricultural Commissioner, in lieu of mitigation measure AG-1(b), the following mitigation may be implemented.

AG-1(c) Funding for Farmland Conservation. Prior to the map recordation, future applicants for projects located on prime agricultural land and in areas currently designated for Agriculture shall provide evidence to the County Planning and Building Department that funds sufficient (as determined by the Agricultural Commissioner or designee) to, (1) purchase a farmland conservation easement, deed restriction, or other farmland conservation mechanism, and (2) to compensate for administrative costs incurred in the implementation of this measure, have been provided to the California Farmland Conservancy Program or similar program (as approved by the Agricultural Commissioner or designee), which will provide for the conservation of adequate acres of farmland [based on ratios defined in mitigation measure AG-1(b)] in San Luis Obispo County.

Plan Requirements and Timing. Evidence of sufficient funds to purchase a farmland conservation easement, deed restriction, or other farmland conservation mechanism, in addition to administrative costs, shall be submitted to Planning and Building prior to map recordation. Monitoring. Planning and Building shall not issue permits until the project applicant has demonstrated compliance with this measure.

AG-2(a) Agricultural Buffers. Future applicants shall maintain County-recommended agricultural buffers (as shown in Table 4.2-2), or as determined appropriate by the Agricultural Commissioner.

Plan Requirements and Timing. This provision shall be noted on the site plans and approved by the Agricultural Commissioner. Monitoring. Planning and Building staff shall approve a site plan that conforms to this recommendation.

AG-2(b) Conflict Reduction through Site Design. New development shall be designed to separate occupied buildings from adjacent agricultural development to the extent possible. This may be accomplished through the following site design measures: building concentration or clustering away from existing agricultural uses; building orientation; and fencing in key locations.

Plan Requirements and Timing. These provisions shall be noted on the site plans and approved by the Agricultural Commissioner.

Monitoring. Planning and Building staff shall approve a site plan that conforms to this recommendation.

AG-2(c) Disclosure of Potential Nuisance. In accordance with the County Right to Farm Ordinance (No. 2050), upon the transfer of real property, the transferor shall deliver to the prospective transferee a written disclosure statement that shall make all prospective homeowners aware that although potential impacts or discomforts between agricultural and non-agricultural uses may be lessened by proper maintenance, some level of incompatibility between the two uses would remain. This notification shall include disclosure of potential nuisances associated with on-site agricultural uses, including the frequency, type, and technique for pesticide spraying, frequency of noise-making bird control devices, dust, and any other vineyard practices that may present potential health and safety effects. In addition, the notification shall identify that adjoining agricultural land is permanently protected for agricultural uses, and that future agricultural uses may vary from current uses and might include processing facilities, nighttime operation, wind machines, odor, dust, noise, legal chemical applications, use and creation of compost, and/or changes in irrigation patterns and water use. The establishment of new agricultural uses, if established in accordance with standard agricultural practices, will not be considered a nuisance from the time of establishment.

Plan Requirements and Timing. The disclosure shall be provided by the property transferor to prospective homeowners upon the transfer of real property. Updated disclosure notifications shall be provided to existing and prospective homeowners as necessary if agricultural maintenance practices change. Monitoring. Planning and Building staff shall review the disclosure statement prior to project occupancy.

AQ-1(a) Construction Equipment Emissions Controls. Future applicants shall implement the following measures to mitigate equipment emissions:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;

- Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standard identified in the above two measures (e.g., captive or NO_X exempt area fleets) may be eligible by providing alternative compliance;
- All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or jobs sites to remind drivers and operators of the 5 minute idling limit;
- Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible;
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel; and
- The applicant shall apply Best Available Control Technology (CBACT) as determined by the APCD.

Plan Requirements and Timing. Applicants shall provide the grading amounts and schedule to the SLOAPCD Planning Division at least three months prior to the start of construction. All applicable BACT measures shall be shown on all grading and construction plans prior to issuance of construction permits. Compliance with these measures shall be included as bid specifications submitted to contractors. Monitoring. Applicants shall provide Planning and Building with proof that the above listed measures, as well as those required by the SLOAPCD upon review of grading plans, have been implemented prior to the start of the construction activity. The grading inspector shall perform periodic site inspections.

AQ-1(b) Dust Control. The following measures shall be implemented to reduce PM_{10} emissions during construction:

- Reduce the amount of the disturbed area where possible;
- Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Water shall be applied as soon as possible whenever wind speeds exceed 15

miles per hour. Reclaimed (nonpotable) water should be used whenever possible;

- All dirt-stock-pile areas shall be sprayed daily as needed;
- Permanent dust control measures shall be identified in the approved project revegetation and landscape plans and implemented as soon as possible following completion of any soil disturbing activities;
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast-germinating native grass seed and watered until vegetation is established;
- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD;
- All roadways, driveways, sidewalks, etc., to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used;
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- All trucks hauling dirt, sand, soil or other loose materials shall be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site; and
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible.

The above measures shall be shown on development plans.

Plan Requirements and Timing. Conditions shall be adhered to throughout all grading and construction periods for all project components. Prior to issuance of grading permits, applicants shall include, as a note on a separate informational sheet to be recorded with any map, the aforementioned dust control recommendations. All recommendations shall be shown on grading and building plans. Monitoring. Planning and Building inspectors shall perform periodic spot checks during grading and construction. SLOAPCD inspectors shall respond to nuisance complaints.

AQ-1(c) Cover Stockpiled Soils. If importation, exportation, or stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting material shall be tarped from the point of origin.

Plan Requirements and Timing. Conditions shall be adhered to throughout all grading and construction periods for all project components. Monitoring. Planning and Building inspectors shall perform periodic spot checks during grading and construction. SLOAPCD inspectors shall respond to nuisance complaints.

AQ-1(d) Dust Control Monitor. The contractor or builder shall designate a person or persons to monitor the dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

Plan Requirements and Timing. The name and telephone number of dust monitor(s) shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork, or demolition. The dust monitor shall be designated prior to approval of a Land Use Permit. Monitoring. Planning and Building shall contact the designated monitor as necessary to ensure compliance with dust control measures.

AQ-1(e) Hydrocarbon Contaminated Soil. Should hydrocarbon contaminated soil be encountered during construction activities, the APCS shall be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an APCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH – non-permeable barrier such as a plastic tarp. No headspace shall be allowed where vapors would accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;

- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,
- Clean soil must be segregated from contaminated soil.

Plan Requirements and Timing. Conditions shall be adhered to throughout all grading and construction periods for all project components. Monitoring. Planning and Building inspectors shall perform periodic spot checks during grading and construction. SLOAPCD inspectors shall respond to notification of contamination.

AQ-1(f) Construction Activity Management Plan. Prior to commencement of construction for any project for which the estimated construction emissions from the actual fleet are expected to exceed either of the APCD Quarterly Tier 2 thresholds of significance after application of the construction equipment control measures in Mitigation Measure AQ-1(a), the project applicant shall develop a Construction Activity Management Plan (CAMP), designed to minimize the amount of large construction equipment operating during any given time period. The CAMP shall include, but not be limited to, the following elements:

- A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed under Mitigation Measure AQ-1(b);
- Tabulation of on-and off-road construction equipment (age, horsepower, and miles and/or hours of operation;
- Schedule construction truck trips during non-peak hours to reduce peak-hour emissions;
- Limit the length of the construction work day period, if necessary; and
- Phase construction activities, if appropriate.

Plan Requirements and Timing. Conditions shall be adhered to throughout all grading and construction periods for all project components. Monitoring. Planning and Building inspectors shall perform periodic spot checks during grading and construction.

AQ-1(g) Off-Site Mitigation Fees. For projects where construction-related ozone precursor emissions exceed APCD Quarterly Tier 2 thresholds of significance after application of other mitigation, including a Construction Activity Management Plan, as described in Mitigation Measure AQ-1(f), off-site mitigation fees would be recommended. The off-site mitigation fee shall be calculated in accordance with SLOAPCD's *CEQA Air Quality Handbook*, is $16,000 per ton of ozone precursor emission (NO_X + ROG) over the APCD threshold calculated

over the length of the expected exceedance. Future applicants may use these funds to implement APCD approved emission reduction projects near the project site or may pay that funding level plus an administration fee (2009 rate is 10%) to the APCD to administer emission reduction projects in close proximity to the project.

Plan Requirements and Timing. Off-site mitigation fees shall be assessed at least two months prior to the start of construction. Monitoring. Applicants shall provide Planning and Building with proof that the required fees have been paid upon review of grading plans, and have been implemented prior to the start of the construction activity.

AQ-3(a) Trip Reduction Measures. To reduce overall trip generation and associated air contaminant emissions, future commercial tenants within the Community Plan Study Area shall to establish and maintain employee trip reduction programs that should include, but are not limited to, the following elements:

- Orient buildings toward streets with automobile parking in the rear to promote a pedestrian-friendly environment;
- Provide good access to/from developments for pedestrians, bicyclists, and transit users;
- Implement on-site circulation design elements in parking lots to reduce vehicle queuing and improve the pedestrian environment;
- Provide employee lockers and showers (one shower and 5 lockers for every 25 employees are recommended);
- Parking space reduction to promote bicycle, walking, and transit use;
- Provide and maintain kiosk displaying transportation information in a prominent area accessible to employees and patrons;
- If the project is located on an established transit route, provide improved public transit amenities (i.e., covered transit turnouts, direct pedestrian access, covered benches, smart signage, route information displays, lighting, etc.);
- Provide preferential parking/no parking fee for alternative fueled vehicles or vanpools;
- Install bicycle racks and/or bicycle lockers at a ratio of 1 bicycle parking space for every 10 car parking spaces for customers and employees, or at a ratio otherwise acceptable the SLOAPCD to be determined prior to occupancy clearance;
- Post carpool, vanpool and transit information in employee break/lunch areas;
- Employ or appoint an Employee Transportation Coordinator;

- Implement a Transportation Choices Program. Project applicants should work with the Transportation Choices Coalition partners for free consulting services on how to start and maintain a program. Contact SLO Regional Rideshare at 541-2277;
- Provide for shuttle/mini bus service;
- Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.;
- Implement compressed work schedules;
- Implement telecommuting program;
- Implement a lunchtime shuttle to reduce single occupant vehicle trips;
- Include teleconferencing capabilities, such as web cams or satellite linkage, which will allow employees to attend meetings remotely without requiring them to travel out of the area;
- Provide on-site eating, refrigeration and food vending facilities to reduce employee lunchtime trips;
- Provide preferential carpool and vanpool parking spaces; Provide shower and locker facilities to encourage employees to bike and/or walk to work (typically one shower and three lockers per every 25 employees); and
- Provide off-site improvements to offset contaminant emissions, including: retrofitting existing homes and businesses with energy-efficient devices, replacing transit or school buses, contributing to alternative fueling infrastructure, and/or improving park and ride lots.

The specific components of a trip reduction program that will be recommended for a particular commercial development will be at the discretion of the Planning and Building Department, based on the recommendations of the SLOAPCD.

Plan Requirements and Timing. Future commercial development shall incorporate the listed provisions into development plans or shall submit proof of infeasibility prior to initiation of construction. Monitoring. The Planning and Building Department shall site inspect to ensure development is in accordance with approved plans prior to occupancy clearance. Planning and Building staff shall verify installation in accordance with approved building plans.

AQ-4(a) Odor Reduction Measures. The wastewater treatment plant design shall include technologies to reduce odor emissions, which may include one or more of the following:

- Add-on Controls
- Process Changes
- Carbon Absorption
- Incineration
- Strategic Placement of stacks/vents

Plan Requirements and Timing. The applicant should consult with the SLOAPCD Engineering Division to determine what permits and emissions control devices would be required for the wastewater treatment plant. The required provisions shall be incorporated into development plans or proof of infeasibility shall be submitted prior to initiation of construction. Monitoring. SLOAPCD staff shall verify that odor control measures are implemented prior to operation.

BIO-1(a) Jurisdictional Delineation. A jurisdictional delineation shall be conducted by a County-approved qualified biologist for all properties that may contain wetland features prior to issuance of land use permits. The jurisdictional delineation shall examine the entire project site and shall determine if features on-site fall under the jurisdiction of the USACE, RWQCB, and/or CDFG. The result will be a preliminary jurisdictional delineation report which shall be submitted to the appropriate agencies for review and approval, and permits shall be obtained from each agency where applicable.

Plan Requirements and Timing. The County shall establish a combining designation standard for potential wetlands that will require proof of an approved jurisdictional delineation and all applicable permits shall be submitted to Planning and Building prior to issuance of land use permits. Monitoring. Planning and Building shall not issue permits until the project applicant has demonstrated compliance with all applicable federal and state laws.

BIO-1(b) Avoidance, Minimization, and Mitigation of Impacts to Wetlands and Riparian Habitat. All proposed projects in the Study Area shall be designed to avoid impacts to wetlands and riparian habitats. The County Fire Department *Standard 8: Defensible Space* requires a fuels reduction zone of no less than 100 feet from structures. Therefore, a minimum setback of 100 feet from the edge of delineated wetland and riparian habitat shall be recommended. Activities within the

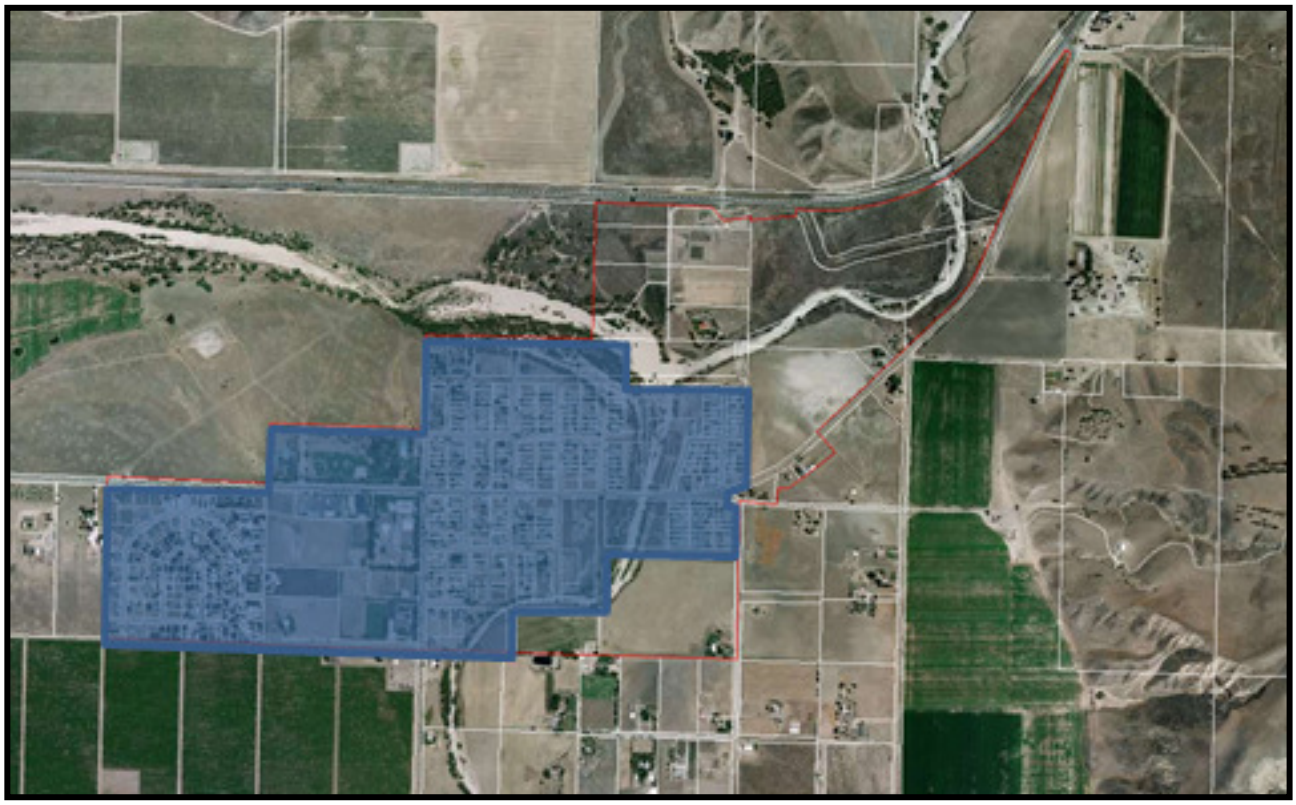
buffer zone shall be limited to fuels reduction for fire safety purposes only. All wetland and riparian habitat and appropriate buffer zones shall be clearly demarcated on-site with highly visible construction fencing to ensure that these areas are not impacted during construction-related activities.

If wetland and/or riparian habitat cannot be avoided, permits shall be obtained from the appropriate regulatory agency (USACE, RWQCB, and/or CDFG). Loss of such features shall be mitigated at a ratio to be determined by the permitting agencies, but shall not be less than 1:1 (one acre of habitat created to one acre of habitat lost). Mitigation shall occur on-site. Locally native riparian and wetland species shall be used and removal of native species shall be prohibited; however, select willow cuttings and emergent plant division are permissible. A mitigation plan shall be prepared by a qualified biologist and shall include success criteria, monitoring methods, a monitoring schedule, contingency planning, weed control/management provisions, irrigation methods and schedule, and annual reporting requirements. Created riparian and wetland habitat shall be monitored for a minimum of five years or as otherwise determined by the permitting agencies. Prior to commencement of grading, a performance bond shall be filed with the County to complete habitat creation and maintain plantings for the duration of the mitigation program.

If mitigation on-site is not feasible, mitigation off-site at a location approved by the permitting agencies shall occur. Alternatively, payment into an in-lieu fee program and/or purchase of credits at an approved mitigation bank may be allowed by the permitting agencies for impacts to wetlands.

Plan Requirements and Timing. All grading and construction plans shall depict on-site wetland and riparian habitat and appropriate setbacks, and shall be submitted along with applicable permits, a performance bond, and proof of payment into an in-lieu fee program and/or purchase of wetland credits (if applicable) to Planning and Building for approval prior to issuance of land use permits. In addition, prior to issuance of land use permits a letter from the County Fire Department shall be submitted identifying that no riparian vegetation removal is needed for fire safety purposes.
Monitoring. Planning and Building shall inspect the site during all phases of construction to ensure compliance with appropriate avoidance and minimization measures. Planning and Building shall oversee implementation and completion of the mitigation program.

The following mitigation measures BIO-1(c), 1(g), 3(a), 3(b), 3(d), 3(e), 3(f), 3(g), 3(h), 3(i), 3(j), 3(l), 3(o), 3(p), 3(q) do <u>not</u> apply to "infill parcels" that are mapped below.



BIO-1(c) Landscape Plan. Development plans for all discretionary land use permits or subdivision projects within undeveloped parcels that are not infill parcels shall include a landscape plan. The plan shall describe the size and species of all trees, shrubs, and lawns proposed to be planted in the Study Area, including the limits of irrigated areas, and shall conform to the County's approved list of local landscape plants. Locally native plant species shall be used to the greatest extent feasible. Invasive and problematic species such as those included on the County's list of potentially problematic plants, identified by the California Invasive Plant Council as invasive plants, and listed by the California Department of Food and Agriculture and/or U.S. Department of Agriculture as noxious weeds shall be prohibited.

The landscape plan shall identify operational procedures to be employed to maintain a healthy landscape with minimum application of fertilizers and pesticides. No rodent control, pesticides, or herbicides shall be used within the non-disturbance buffer zones around wetland and riparian habitats. Operation and management of

the landscape program will be designed to contain the distribution of management chemicals within the project site.

Plan Requirements and Timing. County Planning and Building, in consultation with a qualified biologist (if necessary), shall review and approve the landscaping plan prior to issuance of land use permits. Monitoring. Planning and Building shall inspect the site to ensure compliance with the landscape plan prior to occupancy.

BIO-1(d) Oak Tree Inventory, Avoidance, and Protection Plan. Applicants for discretionary development projects at sites that support oak trees in the Study Area shall prepare an Oak Tree Inventory, Avoidance and Protection Plan as outlined herein. The plan shall be reviewed by a certified arborist or County-approved biologist prior to approval of grading permits, and shall include the following items:

1. Comprehensive Oak Tree Inventory. This shall include the following information:
    - An inventory of all trees at least 5 inches dbh within 50 feet of all proposed impact areas. All inventoried trees shall be shown on maps. The species, dbh, location, and condition of these trees shall be documented in data tables.
    - Identification of trees which will be retained, removed, or impacted. This information shall be shown on maps and cross-referenced to data tables described in Item (a).
    - The location of proposed structures, utilities, driveways, grading, retaining walls, outbuildings, and impervious surfaces shall be shown on maps. The applicant shall clearly delineate the building sites/building control lines containing these features on the project plans. In addition, the plans shall include any fenced areas for livestock or pets and clearance areas prescribed by County fire safety policies.
    - Revised drainage patterns that are within 100 feet upslope of any existing oak trees to remain. All reasonable efforts shall be made to maintain historic drainage patterns and flow volumes to these trees. If not feasible, the drainage plan shall clearly show which trees would be receiving more or less drainage.

2. Oak Tree Avoidance and Protection Guidelines. Grading and development shall avoid the removal of oak trees where feasible and minimize potential disturbance to oaks and their associated

root zones. Final site plans shall obtain concurrence from County staff to ensure compliance with this provision. Tree protection guidelines and a root protection zone shall be established and implemented for each tree or group of trees to be retained that occurs within 50 feet of disturbance areas. The following guidelines shall be included on all development plans:

- All oak trees to remain within 50 feet of disturbance areas (construction or grading) shall be marked for protection and the root zone fenced prior to any grading. The root zone shall be designated as 1.5 times the distance from the trunk to the drip line of the tree. Grading, utility trenching, compaction of soil, or placement of fill shall be avoided within these fenced areas. If grading in the root zone cannot be avoided, retaining walls shall be constructed to minimize cut and fill impacts. The project arborist or biologist must approve any work within the root protection zone.
- Care shall be taken to avoid surface roots within the top 18 inches of soil. If any roots must be removed or exposed, they shall be cleanly cut and not left exposed above ground surface.
- Unless previously approved by the County, the following activities shall be prohibited within the root zone of remaining oak trees: year-round irrigation (no summer watering, unless "establishing" a new tree or native compatible plant for up to 3 years); grading (includes cutting and filling of material); compaction (e.g., regular use of vehicles); placement of impermeable surfaces (e.g., pavement); or disturbance of soil that impacts roots (e.g., tilling).
- Trimming oak branches shall be minimized, especially for larger lower branches, and the amount trimmed in one season shall be limited to 10 to 30 percent of the canopy to reduce stress/shock. If trimming is necessary, the applicant shall either use a qualified arborist or utilize accepted arborist's techniques.

Plan Requirements and Timing. Tree protection guidelines shall be included on all development plans prior to approval. The Oak Tree Inventory, Avoidance, and Protection Plan shall be prepared by a certified arborist or County-approved biologist and shall be submitted to Planning and Building for review and approval prior to issuance of land use permits. Monitoring. Planning and Building

shall inspect the project site during all phases of construction to ensure compliance with the Oak Tree Inventory, Avoidance, and Protection Plan.

BIO-1(e) Oak Tree Mitigation and Monitoring. A certified arborist or County-approved biologist shall be retained by the applicant of a discretionary development project that would remove one or more oak tree to prepare an Oak Tree Mitigation Program that shall include a replacement plan and monitoring plan. These plans shall include cost estimates for the planting plan, installation of new trees, and maintenance of new trees for a period of seven years. A performance bond, equal to the cost of the estimate, shall be posted by the applicant.

1. Replacement Plan. The replacement plan shall outline the number of trees to be replanted, the proposed location(s) for replanting, a schedule for replanting efforts, and the methods to be used for replanting. Replanting of oak trees shall account for not more than one-half of the mitigation recommendation. The plan shall incorporate the following:

    - The plan shall include at a minimum a 4:1 (trees replaced to trees removed) ratio for oak trees removed and a minimum replacement ratio of 2:1 for oak trees impacted (i.e., disturbance within the root zone area) for all oak trees measuring 5 inches dbh or greater.
    - Replacement plantings shall be from regionally or locally collected seed stock grown in vertical tubes or deep one-gallon tree pots. A qualified arborist or biologist shall be retained to monitor the acquisition, installation, and maintenance of all oak tree replacement plantings. Replanting shall occur as soon as possible following ground disturbance activities but shall be avoided during the warmest, driest months (June through September) to the greatest extent feasible. Whenever possible, the location of newly planted trees shall be located: 1) on the north side of and at the canopy/dripline edge of existing mature native trees; 2) on north-facing slopes; 3) within drainage swales (except when riparian habitat is present); 4) where topsoil is present; and/or 5) away from continuously wet areas (e.g., lawns, leach lines).
    - Four-foot diameter shelters shall be placed over each oak tree to protect it from deer and other herbivores, and shall consist of 54" tall welded wire cattle panels (or equivalent

material) and be staked using T-posts. Wire mesh baskets, at least two-foot diameter and two-feet deep, shall be used below ground.

- No herbicides shall be used. A weed mat (covering at least a three-foot radius from center of plant) shall be installed or weeds shall be removed by hand. A weed-free mulch at least three inches deep and covering at least a three-foot radius shall be installed and regularly replenished for each new tree.
- A certified arborist or County-approved biologist shall submit to the County an initial post-planting report outlining the efforts that were undertaken during replanting and shall include an as-built planting plan.

2. Monitoring Plan. A monitoring plan shall be developed by a County-approved qualified biologist for a seven year period following installation of newly planted oak trees and shall outline measures necessary to ensure that these newly planted trees become successfully established. Measures to ensure success shall include, at a minimum, maintaining protections from predation by wild and domestic animals; regular weeding a minimum of twice per year (minimum of once early fall and once early spring); installation of an irrigation system for controlled watering for the first three years. The plan shall include a monitoring schedule, success criteria, remedial measures (should they be needed), and annual reporting for a minimum of seven years or until replanted oak trees have become successfully established as determined by the qualified arborist or biologist with concurrence from the County. The goal at the end of seven years shall be a minimum of 80% survival of new plantings.

Plan Requirements and Timing. The Oak Tree Mitigation Program shall be submitted to Planning and Building for review and approval prior to issuance of land use permits. This document shall identify the final number of replacement trees utilizing the County's replacement ratio identified above. Prior to issuance of land use permits, the applicant shall file a receipt of evidence of posting a performance bond that is acceptable to the County. Prior to occupancy clearance, trees shall be planted, fenced, and appropriately irrigated and the post-planting report shall be filed with Planning and Building. Monitoring. Planning and Building shall conduct site inspections through all phases of the Oak Tree Mitigation Program to evaluate the effectiveness and success of the program. Release of performance bond will require Planning and Building approval.

BIO-1(f) Construction Best Management Practices. In addition to mitigation measures AQ-1(b) and AQ-1(c) in Section 4.3 *Air Quality*, the following construction Best Management Practices (BMPs) shall be incorporated into all grading and construction plans:

- Designation of a 15 mph speed limit in all construction areas.
- All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible. Development of new access and ROW roads shall be minimized.
- Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from waters, wetlands, or other sensitive resources as identified by a qualified biologist. Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site.
- Daily construction work schedules shall be limited to daylight hours only.
- Mufflers shall be used on all construction equipment and light trucks shall be in good operating condition.
- Drip pans shall be placed under all stationary vehicles and mechanical equipment.
- All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week.
- No pets are permitted on a project site during construction.

Plan Requirements and Timing. All construction and grading plans shall show all applicable construction BMPs and shall be submitted to Planning and Building for review and approval prior to issuance of grading permits. Monitoring. Planning and Building shall conduct site inspections during all phases of construction to ensure compliance.

BIO-1(g) Worker Education. Prior to initiation of all construction activities, including installation of exclusionary/protective fencing, for discretionary land use permit or subdivision projects within undeveloped parcels that are not infill parcels a County-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of all sensitive resource issues on-site as well as the general measures

that are being implemented to protect these resources. A fact sheet printed in both English and Spanish languages shall be provided to all contractors, their employees, and any other personnel involved with the construction of the project, and shall include a description of the sensitive resources on-site, information on their occurrence on-site, a list of construction BMPs outlined in BIO-1(g) and other applicable mitigation measures, instructions to follow when encountering sensitive resources, and all applicable County-required Conditions of Approval.

Plan Requirements and Timing. Worker education training shall be conducted prior to start of construction. Monitoring. A brief report outlining the topics discussed and documenting attendance shall be submitted to Planning and Building within 10 days following the training session.

BIO-1(h) Erosion and Sedimentation Control. Applicants for discretionary development projects in the Study Area shall develop an Erosion and Sedimentation Control Plan to be implemented prior to and during all phases of construction to protect wetland and riparian habitats and other sensitive resources from contamination during construction. Erosion control measures shall include installation of a combination of certified weed-free straw wattles/bales, sand/gravel bags, mulching, erosion control blankets, soil stabilizers, and silt fencing. Silt fencing shall be buried at least six inches below ground and shall be maintained through all phases of construction. All graded areas shall have a native erosion control seed mix installed within four weeks of completion of ground disturbance activities.

Plan Requirements and Timing. The Erosion and Sedimentation Control Plan shall be submitted to Planning and Building for review and approval prior to issuance of land use permits. All grading and construction plans shall show the location of silt fencing, which shall be installed prior to ground disturbance activities. Monitoring. Planning and Building shall monitor installation and maintenance of silt fencing. The site shall be inspected during all phases of construction and within 48 hours of a rainfall event totaling 0.25 inch or greater.

BIO-3(a) San Joaquin Kit Fox Pre-construction Survey. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. No more than 30 days prior to initiation of construction activities within the Community Plan area, a pre-construction survey shall be conducted by a County-

approved biologist and shall encompass the disturbance footprint plus a 100-foot buffer. The pre-construction survey shall include a walking survey of the disturbance area to locate potential dens and other sign indicating the presence of SJKF (e.g., tracks, scat, etc.). The walking survey shall include transects spaced generally 33 feet (10 meters) apart such that they entire disturbance area can be visually inspected. If potential dens are located, tracking medium such as diatomaceous earth (used to take imprints of animal footprints) shall be placed around the den for a minimum of three consecutive days and the area shall concurrently be spotlighted for a minimum of three consecutive nights to determine occupancy. If dens occupied by SJKF, or other indications of SJKF presence, are located on-site or within the 100-foot buffer, no further action on-site shall occur until the USFWS and CDFG have been consulted.

Exclusion zones shall be established around all dens that are occupied or that will be avoided by the development using flagged stakes. Use of fencing shall be avoided. Exclusion zones shall be at the discretion of the County-approved biologist and may include the following:

- Potential den: 50 feet
- Known den: 100 feet
- Natal/pupping den: buffer to be determined on a case-by-case basis in coordination with USFWS and CDFG.

Unoccupied dens that cannot be avoided during construction shall be removed upon approval from USFWS and CDFG through hand excavation by a USFWS-permitted biologist.

A report of the results of the pre-construction survey shall be prepared and shall include a map identifying the location(s) where SJKF or its sign are found.

Planning Requirements and Timing. The County shall ensure that the biologist implementing the above mitigation measure is approved by the USFWS prior to implementation. A report of the pre-construction survey shall be submitted to the County for review and approval prior to issuance of grading permits. Monitoring. The County shall ensure that the pre-construction survey has been completed.

BIO-3(b) San Joaquin Kit Fox Impact Avoidance. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. The following impact avoidance measures shall be implemented throughout the Study Area to reduce the potential for construction related impacts to the SJKF.

- Restrict construction activities to daylight hours.
- All trenches or holes more than two feet deep shall either be fully covered with plywood at the end of each work day or shall include escape ramps. All trenches or holes shall be inspected daily to ensure an animal is not trapped.
- All pipes, culverts, or similar structures shall be inspected for SJKF prior to capping, burying, or moving.
- Use of pesticides shall be avoided to the greatest extent feasible. If use of pesticides cannot be avoided, their use shall be restricted. A zinc phosphide or similar chemical rodenticide may be used if necessary to control rodent populations. All pesticides must be applied in accordance with federal and state standards.
- If a SJKF is found at a project site at any time during the course of construction, all construction activities shall cease and the CDFG and USFWS shall be contacted immediately for guidance.

Plan Requirements and Timing. The County shall ensure that the biologist implementing SJKF avoidance measures is approved by the USFWS prior to implementation. The above impact avoidance measures shall be included on all grading and construction plans prior to approval of land use permits. Monitoring. Planning and Building shall retain a qualified USFWS-approved biologist to monitor all construction activities to ensure compliance.

BIO-3(c) San Joaquin Kit Fox Impact Minimization and Mitigation. Setbacks that exclude structural development and non-agricultural site disturbance shall be provided for a distance of 100 to 400 feet from the top-of-bank (depending on site specific conditions) of the portions of the Estrella River and San Juan Creek that traverse the Community Plan area to allow for habitat preservation and upland movement corridors for SJKF. The area between these buffers on either side of these waterways shall be designated as a Sensitive Resource Area (SRA) by the County. An additional movement corridor with a width of 200 feet shall be designated along the eastern edge of the Community Plan area between Fallingstar Phase II and the neighboring hillside. In addition, all suitable habitat to be

developed shall be restored/preserved either on-site or at a County-approved off-site location within the Shandon Valley at a minimum ratio of 1:1 (impacted:restored). Note that the regulatory agencies (e.g., USFWS and CDFG) may require a higher ratio. It is preferred that restored/preserved parcels occur as contiguous lands, rather than scattered parcels. Restored/preserved parcels shall be preserved in perpetuity through a conservation easement or deed restriction. If lands are to be restored, a restoration plan shall be developed by a County-approved biologist and shall include goals, methods, success criteria, and a timeline, and shall be implemented for not less than five years.

Plan Requirements and Timing. The County shall designate SRAs prior to issuance of land use permits. Applicants shall file proof of a conservation easement or deed restriction for restoration/preservation lands, as well as a restoration plan, with the County prior to issuance of land use permits as applicable.

Monitoring. Planning and Building shall review for compliance prior to issuance of land use permits and spot check during construction to confirm that site disturbance does not occur within designated SRAs.

BIO-3(d) Burrowing Owl Impact Pre-construction Survey. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. Prior to initiation of ground disturbance activities, surveys shall be conducted to determine the presence/absence of burrowing owls where suitable habitat is present. A County-approved biologist shall survey the proposed disturbance footprint plus a 500-foot buffer to identify burrows and owls. Surveys for potential burrows shall be conducted by walking transects spaced generally 33 feet apart (10 meters) such that the entire survey area footprint can be visually inspected. Surveys for burrowing owls shall take place near sunrise or sunset in accordance with CDFG-adopted survey protocols (California Burrowing Owl Consortium 1993) and shall focus on areas where burrows were found. All burrows or burrowing owls identified on-site shall be mapped. Surveys shall take place no more than 30 days prior to construction. Survey results will be valid only for the season during which the survey is conducted.

If no burrowing owls are detected during pre-construction surveys, no further mitigation is recommended.

Planning Requirements and Timing. The County shall ensure that the biologist implementing the above mitigation measure is approved by the USFWS prior to implementation. Survey results shall be reported to the Planning and Building prior to issuance of grading permits. Monitoring. Planning and Building shall review the report and shall ensure that all established buffers are maintained until burrowing owls are no longer present.

BIO-3(e) Burrowing Owl Impact Avoidance. If, during pre-construction surveys, burrowing owls are detected on-site or within the survey area, all burrowing owls and occupied burrows shall be avoided and a buffer shall be established around the occupied burrow(s) by the County-approved biologist. The buffer shall be a minimum of 300 feet around nest burrows and 100 feet around non-nest burrows. Buffers shall be demarcated with highly visible construction fencing and no construction activities shall occur within this buffer until the qualified biologist has determined that the burrow is no longer occupied.

If an occupied burrow cannot be avoided, passive relocation may be implemented by the County-approved biologist with approval from the USFWS and CDFG. No burrowing owls may be trapped. Passive relocation shall be limited to the non-breeding season (typically between April 15 and July 15). Passive relocation may involve installation of one-way doors at burrow entrances for a minimum of five days. Once the County-approved biologist has determined that the burrow is no longer occupied, the burrow may be hand excavated to prevent re-occupancy.

Planning Requirements and Timing. The County shall ensure that the biologist implementing the above mitigation measure is approved by the USFWS prior to implementation. The above impact avoidance measure shall be included on all grading and construction plans prior to approval of land use permits. A report on the implementation of impact avoidance measures used shall be submitted to the County, USFWS, and CDFG upon completion of the construction project. Monitoring. Planning and Building shall retain a qualified USFWS-approved biologist to monitor all construction activities to ensure compliance.

BIO-3(f) Vernal Pool Fairy Shrimp and Longhorn Fairy Shrimp Presence/Absence Determination. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. Prior to land use clearance, the USFWS protocol for wet and dry season surveys shall be conducted to conclusively determine the presence or absence of VPFS and longhorn fairy shrimp on-site where suitable habitat is present. The survey area shall include the disturbance footprint plus a 500 foot buffer. A 90-day report consistent with the current USFWS reporting guidelines shall be prepared to document the methods and results of surveys. Should the presence of VPFS, longhorn fairy shrimp or additional special status wildlife species be determined, a map identifying locations in which these species were found shall be prepared and included in the report. The report shall be submitted to the USFWS for approval.

If the surveys produce a negative finding for the presence of VPFS, then no further mitigation would be recommended.

Plan Requirements and Timing. The applicant shall hire a USFWS-permitted and County-approved biologist to conduct the wet and dry season surveys and prepare a final report of findings. Survey results shall be submitted to the USFWS and Planning and Building, as well as notice of approval of the report by the USFWS shall be filed with Planning and Building, prior to approval of the land use clearance. Monitoring. Planning and Building shall verify completion of the surveys and coordination with the USFWS prior to approval of land use permits.

BIO-3(g) Vernal Pool Fairy Shrimp and Longhorn Fairy Shrimp Avoidance. If VPFS or longhorn fairy shrimp are determined to be present on-site, then the following avoidance measures shall be implemented.

- An exclusion zone shall be established around each vernal pool found during the survey and shall be staked and flagged at the discretion of the County-approved biologist. The exclusion zone shall include areas up to 100 feet where pools are upslope from the construction site and up to 250 feet where pools are downslope of the construction site.
- Erosion control measures shall be implemented to reduce the potential for erosion of sediment into vernal pools. (See BIO-1 (h) above.)

- Work shall be avoided in the exclusion zone after the first substantial rainfall event (>0.25 inches) of the winter season until June 1, and/or until pools remain dry for 72 hours.
- Refueling and washing of vehicles shall occur no less than 100 feet from vernal pools and shall occur within a bermed and lined area to prevent contamination.
- Use of pesticides within 200 feet of vernal pools is prohibited.

Plan Requirements and Timing. The applicant shall hire a USFWS-permitted and County-approved biologist to conduct the wet and dry season surveys and prepare a final report of findings. Survey results shall be submitted to the USFWS and Planning and Building prior to approval of the land use clearance. Monitoring. Planning and Building shall verify compliance with avoidance measures and coordination with the USFWS prior to approval of land use permits. Planning and Building shall inspect the site during all phases of construction to ensure avoidance measures are implemented.

BIO-3(h) Legless and Horned Lizard Surveys, Capture and Relocation. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. Immediately prior to initiation of construction activities within the Community Plan area, capture and relocation efforts shall be conducted for the silvery legless lizard and coast horned lizard. Designated areas in suitable habitat in open space shall be identified within or near the project site for release of captured legless and horned lizards.

Surveys shall be conducted by a County-approved biologist, and shall include raking of leaf litter and sand under shrubs within suitable habitat in the area to be disturbed to a minimum depth of eight inches. In addition to raking, coverboards shall be placed flat on the ground and checked regularly in the survey areas. Coverboards can consist of untreated lumber, sheet metal, corrugated steel, or other flat material used to survey for reptiles and amphibians. Coverboards shall be placed in the survey area two weeks before surveys begin and shall be checked once a week during raking surveys. Captured lizards shall be placed immediately into containers containing sand or moist paper towels and released in designated release areas no more than three hours after capture.

During all grading activities, a qualified biologist shall be on-site to recover any silvery legless lizards or coast horned lizards that may be excavated/unearthed with native material. If the animals are in good health, they shall be immediately relocated to the designated release area. If they are injured, the animals shall be released to a County-approved specialist until they are in a condition to be released into the designated release area.

Plan Requirements and Timing. Prior to issuance of grading permits, the County-approved biologist shall submit the results of the pre-construction surveys for review and approval by the Planning and Building. During construction, a qualified biologist shall perform surveys in accordance with the measures above, and shall report the results to Planning and Building if lizards are found and/or relocated. Monitoring. Planning and Building shall receive a survey summary report from the County-approved biologist that indicates that all salvage measures were adhered to.

BIO-3(i) Western Pond Turtle and Western Spadefoot Surveys, Avoidance, Capture and Relocation. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. Where suitable habitat is present, a County-approved biologist shall conduct spring surveys for western pond turtles and western spadefoots before the onset of construction activities. If any western pond turtles or western spadefoots are found within 1,000 feet of construction activities such as lot grading or road construction, the biologist shall contact the CDFG to determine if moving any individuals is appropriate. If the CDFG approves moving animals, the biologist shall be allowed sufficient time to move the animals from the work site before work activities begin. If the CDFG does not recommend moving the animals, an appropriate buffer from seasonal pools, in-stream pools, and /or nesting sites shall be implemented and no grading or other construction activities shall occur within this buffer unless authorized by the CDFG. Only the County-approved biologist shall participate in activities associated with the capture and handling of these species.

Plan Requirements and Timing. Prior to issuance of grading permits, a County-approved biologist shall submit a report to Planning and Building detailing the results of the survey and if applicable, relocation efforts. Monitoring. Planning and Building shall review the survey report and site inspect during construction for compliance.

BIO-3(j) San Joaquin Whipsnake Surveys, Avoidance, Capture and Relocation. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. Where suitable habitat is present, a County-approved biologist shall conduct surveys for the San Joaquin whipsnake not more than 30 days prior to the onset of construction activities. If any San Joaquin whipsnakes are found within 100 feet of construction activities, such as lot grading or road construction, the biologist shall be allowed sufficient time to move the animals from the work site before work activities begin. Only the County-approved biologist shall participate in activities associated with the capture and handling of these species.

Plan Requirements and Timing. Prior to issuance of grading permits, a County-approved biologist shall submit a report to Planning and Building detailing the results of the survey and if applicable, relocation efforts. Monitoring. Planning and Building shall review the survey report and site inspect during construction for compliance.

BIO-3(k) Pre-Construction Nesting Bird Surveys and Avoidance. This measure shall apply to all development within the Community Plan area. To ensure avoidance of impacts to nesting bird species and raptors ("birds of prey"), including ground-nesting species, all ground disturbing and/or tree removal activities shall occur between September 1 and February 15. If ground disturbing activities and/or tree removal cannot be conducted during this time period, pre-construction surveys for active nests shall be conducted by a County-approved biologist within and adjacent to all anticipated development areas at most two weeks prior to initiation of construction activities. If active nests are located, all construction work must be conducted outside a buffer zone to be determined by the biologist and the CDFG (typically 50 to 200 feet). No direct disturbance to nests shall occur until the adults and young are no longer reliant on the nest site. The biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to the start of construction within the buffer zone.

If a nest for the fully-protected white-tailed kite and/or golden eagle is found within or adjacent to the proposed project, the CDFG shall be contacted for guidance and no construction activities may occur within a minimum of 500 feet from a white-tailed kite or golden eagle nest until the biologist has confirmed that breeding/nesting is complete and the young have fledged.

Plan Requirements and Timing. A County-approved biologist shall submit survey results to Planning and Building prior to issuance of land us permits. If nests are found, the biologist shall monitor the nest as described above and shall submit results of monitoring efforts to Planning and Building. Monitoring. The County-approved biologist shall be responsible for monitoring activities. Planning and Building shall review survey and monitoring reports.

BIO-3(l) American Badger Surveys and Avoidance. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. Direct take of adult and juvenile badgers shall be avoided. A pre-construction survey for active badger dens shall be conducted where suitable habitat is present prior to initiation of ground disturbance activities by a County-approved biologist and shall include a thorough walking survey of the entire development area between two weeks and four weeks prior to the start of any ground disturbance activity. The survey shall cover the entire area proposed for development plus a 100 foot buffer. Surveys shall focus on both old and new den sites. Dens found within the survey area shall be monitored using a tracking medium, remote camera system, and/or spotlighting at night for a minimum of three days to assess the presence of badgers. Inactive dens shall be collapsed by hand with a shovel to prevent badgers from re-using them during construction.

Active dens located within the survey area shall be avoided during the breeding season (March 1 through June 30). A minimum buffer of 100 feet around the active den shall be demarcated by highly visible construction fencing. The fencing shall be installed one foot above ground to permit movement of badgers in and out of the buffer zone. A County-approved biologist shall use the methods described above to determine when an active den is no longer in use.

Between July 1 and April 30, badgers shall be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for three to five days. Access to the den shall be incrementally blocked to a greater degree over this period. This would cause the badger to abandon the den site and move elsewhere. After badgers have stopped using active dens within the development area, the dens shall be collapsed with a shovel to prevent re-use.

The County-approved biologist shall be present during the initial clearing and grading activity. If badger dens are found, all work shall

cease until the biologist can safely close the badger den. Once the badger dens have been closed, work on the site may resume.

Plan Requirements and Timing. A County-approved biologist shall submit survey results to Planning and Building for review and approval prior to issuance of land use permits. After clearing and/or grading have been started, the biologist shall submit a report to Planning and Development detailing the results of the monitoring. Monitoring. The County-approved biologist shall be responsible for monitoring activities. Planning and Building shall review the final report.

BIO-3(m) Special Status Bat Surveys. This measure shall apply to all development within the Community Plan area. A County-approved, qualified biologist shall conduct presence/absence surveys for special status bats where suitable roosting habitat is present. Bat surveys shall be conducted in accordance with methods set forth by the CDFG in *Distribution, Habitat Associations, Status, and Survey Methodologies for Three Molossid Bat Species* (1998). Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. Surveys shall be conducted no more than 30 days prior to initiation of construction activities.

Plan Requirements and Timing. A County-approved biologist shall submit survey results to Planning and Building for review and approval prior to issuance of land use permits. Monitoring. Planning and Building shall review the final report.

BIO-3(n) Special Status Bat Impact Avoidance. Areas were bats are located shall be avoided where feasible. If impacts to bats cannot be avoided, exclusionary devices, such as netting, shall be installed by a County-approved biologist around the roost(s) after the bats have left the roost in the evening and shall be monitored for a minimum of three days to ensure that no bats return to the roost. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately. Exclusion of bats must commence prior to establishment of maternity colonies, which varies by species. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. Bat roosts shall be removed after the breeding season has ended but before the onset of winter when temperatures are too cold for bat movement.

If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), installation of bat boxes near the impacted roost would be necessary to reduce the impact to the bat species present. Bat boxes shall be species-specific in dimensions and should mimic a tree hollow or crevice. Bat boxes shall be installed at a height that is appropriate for the bat species and anti-predator measures, such as small metal spikes on the top, shall be included to protect bats.

Plan Requirements and Timing. If bats are to be excluded or a maternity colony is found, a County-approved biologist shall submit monitoring results to Planning and Building prior to approval of land use permits. Monitoring. The County-approved biologist shall be responsible for monitoring activities. Planning and Building shall review the final report.

BIO-3(o) Tulare Grasshopper Mouse Surveys and Avoidance. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. A County-approved, qualified biologist shall conduct presence/absence surveys for Tulare grasshopper mice where suitable habitat is present. Surveys shall be conducted using live traps. Surveys shall be conducted no more than 30 days prior to initiation of construction activities. Upon approval from CDFG, animals may be relocated to an approved location on-site outside of the ground disturbance footprint.

Plan Requirements and Timing. A County-approved biologist shall submit survey results to Planning and Building for review and approval prior to issuance of land use permits. Monitoring. Planning and Development shall review the final report.

BIO-3(p) Wildlife Exclusion Fencing. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. All projects shall have a temporary exclusion fence installed around the perimeter of the ground disturbance footprint to prevent special status and other animals from entering the construction area. The exclusion fence, typically consisting of silt fencing, shall be buried a minimum of six inches below ground, shall have a minimum height of two feet above ground, and shall fully encompass the construction site. The exclusionary fence shall be maintained in good working condition and any damage or other malfunction shall be repaired immediately.

Plan Requirements and Timing. All grading and construction plans shall show the location of the exclusion fence, and shall be submitted to Planning and Building for review and approval prior to issuance of grading permits. Monitoring. Planning and Building shall regularly inspect the project site during all phases of construction to ensure that the exclusion fence is in place and properly maintained.

BIO-3(q) Pet Brochure. This measure shall apply to all discretionary land use permits or subdivisions within undeveloped parcels that are not infill parcels. For all residential developments, a pet brochure shall be prepared to inform prospective homebuyers about the impacts associated with non-native animals, especially cats and dogs. The brochure shall also inform potential homebuyers of the potential for coyotes to prey on domestic animals.

Plan Requirements and Timing. Prior to issuance of land use permits, the applicant shall draft a notice indicating the above information, to be recorded with the final map, subject to approval by Planning and Building. Monitoring. Planning and Building shall check plans for compliance.

BIO-3(r) Night Lighting Standards. Night lighting of public areas shall be kept to the minimum necessary for safety purposes. Exterior lighting within 100 feet of open space shall be shielded and aimed as needed to avoid spillover into open space areas. Decorative lighting shall be low intensity and be less than 25 watts. Excessive night lighting, such as for ball fields or tennis courts, shall not be permitted near open space areas.

Plan Requirements and Timing. Prior to issuance of land use permits, the applicant shall submit a lighting plan to Planning and Building for review and approval. Monitoring. Planning and Building shall site inspect after completion of tract development for compliance.

CR-1(a) Community Plan Resource Protection Policies. The following policies shall be added to the proposed Community Plan Update:

- Archaeological and historical resources shall be protected and preserved to the maximum extent feasible.
- Where preservation is not feasible, the significance of each resource shall be evaluated according to current professional standards and appropriate mitigation measures shall be implemented prior to County approval of any development.

Mitigation may include, but not be limited to, data recovery and graphic documentation (photographs, drawings, etc.).

Plan Requirements and Timing. The Planning and Building Department shall add the recommended policies to the proposed Community Plan prior to Plan adoption. Monitoring. Planning and Building shall ensure the above policies are included in the Community Plan prior to adopting the Plan.

CR-1(b) Historical Buildings. At the time of application for discretionary land use permits or subdivisions that involve the demolition or alterations of buildings or structures greater than 50 years old within the 20-year growth boundary, the applicant shall retain a historian or architectural historian who meets the Secretary of Interior's Professional Qualifications Standards to document and evaluate the historical significance of the affected buildings or structures. If such documentation and evaluation indicates that the building or structure qualifies as a significant historical resource, further documentation to reduce impacts on historical resources shall be provided, including but not limited to archival quality photographs, measured drawings, oral histories, interpretive signage, and/or other measures.

It is further recommended that the County complete an inventory of historical resources within the Shandon community to provide a list of significant properties that may warrant additional treatment in the event of proposed future building alterations, and to determine whether the core area of the community qualifies as a historical district. The inventory should identify significant buildings, structures, and sites; determine which resources contribute to the significance of any such district, and determine where the boundaries of such district are located.

This inventory would narrow the range of buildings and properties that warrant evaluation as potential historic resources.

Plan Requirements and Timing. Historical documentation shall be submitted for review and approval by Planning and Building prior to issuance of any permits for demolition or alteration of structures greater than 50 years old. Monitoring. Planning and Building shall site inspect during grading and prior to occupancy clearance to ensure compliance with any measures recommended through the historical documentation.

CR-1(c) Archaeological Resources. At the time of application for discretionary land use permits or subdivisions that will involve any grading, trenching, or other ground disturbance within the 20-year growth boundary, the applicant shall retain a County qualified Registered Professional Archaeologist to complete a Phase 1 archaeological inventory of the project site. In addition to the surface survey, the inventory shall include sufficient background archival research and field sampling to determine whether subsurface prehistoric or historic remains may be present.

Any prehistoric or historic archaeological remains so identified shall be evaluated for significance and eligibility to the CRHR. Phase 2 evaluation shall include any necessary archival research to identify significant historical associations as well as mapping of surface artifacts, collection of functionally or temporally diagnostic tools and debris, and excavation of a sample of the cultural deposit to characterize the nature of the sites, define the artifact and feature contents, determine horizontal boundaries and depth below surface, and retrieve representative samples of artifacts and other remains. Any excavation at Native American sites shall be monitored by a tribal representative. Cultural materials collected from the sites shall be processed and analyzed in the laboratory according to standard archaeological procedures. The age of the remains shall be determined using radiocarbon dating and other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the sites shall be evaluated according to the criteria of the CRHR. The results of the investigations shall be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)" (http://ohp.parks.ca.gov/pages/1054/files/armr.pdf). Upon completion of the work, all artifacts, other cultural remains, records, photographs, and other documentation shall be curated at the Repository for Archaeological and Ethnographic Collections of the University of California, Santa Barbara, or another facility approved by the Environmental Coordinator. All fieldwork, analysis, report production, and curation shall be fully funded by the applicant.

If any of the resources meet CRHR significance standards, the County Environmental Coordinator shall ensure that all feasible recommendations for mitigation of archaeological impacts are incorporated into the final design and any permits issued for

development. Any necessary data recovery excavation shall be carried out by a County qualified Registered Professional Archaeologist according to a research design reviewed and approved by the County Environmental Coordinator prepared in advance of fieldwork and using appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5 (1991), *Guidelines for Archaeological Research Design*, or the latest edition thereof.

Plan Requirements and Timing: As applicable, the final Phase 1 Inventory, Phase 2 Testing and Evaluation, or Phase 3 Data Recovery reports shall be submitted to Planning and Building prior to final inspection of a construction permit. Recommendations contained therein shall be implemented throughout all ground disturbance activities. Monitoring. Planning and Building shall review and approve the recommended reports prior to issuance of a grading permit. Building inspectors shall make site inspections to assure implementation of approved plans.

CR-1(d) Infrastructure Development. Development of sidewalks, drainage structures, parking facilities, or the installation of underground utilities in Shandon shall be done in a manner that preserves the integrity of historical resources, as feasible. Plans for any such development shall be reviewed by the County Environmental Coordinator or a designated historical consultant. If necessary, Phase 1 archaeological or historical surveys and Phase 2 testing and evaluation shall be completed prior to development, following the same standards and guidelines as outlined under Mitigation Measure CR-1(c) above. Measures to avoid, reduce, or mitigate adverse impacts shall be incorporated into project design.

New recreational sites (parks, trails, and related developments) shall be sited and designed to avoid impacts to archaeological and historical resources. Prior to final approval, proposed recreation sites should be surveyed and redesigned where necessary to avoid archaeological or historical resources, subject to final approval by the County Environmental Coordinator.

Plan Requirements and Timing: The County Environmental Coordinator shall review and approve plans for development of new infrastructure or recreational facilities and ensure that their location and siting is consistent with this recommendation. Monitoring. Planning and Building shall review and approve any recommended reports prior to construction of any new infrastructure, parks, or

recreational facilities. Building inspectors shall make site inspections to assure implementation of approved plans.

CR-1(e) CA-SLO-2618, CA-SLO-2619H, and P-40-038242 Avoidance. Avoidance is the preferred measure for mitigating impacts to archaeological sites CA-SLO-2618, CA-SLO-2619H, and P-40-038242. If avoidance is deemed feasible, the boundaries of theses sites shall be defined through a combination of intensive surface examination and limited subsurface sampling. The boundary definition should be completed by a County approved Registered Professional Archaeologist and should include excavation of a sufficient number of sampling units to define the site's horizontal and vertical extent completely. A Native American tribal representative should participate in the work, and the results should be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)" (http://ohp.parks.ca.gov/pages/1054/files/armr.pdf). Upon completion of the work, all artifacts, other cultural remains, records, photographs, and other documentation should be curated at the Repository for Archaeological and Ethnographic Collections of the University of California, Santa Barbara, or another facility approved by the Environmental Coordinator. If artifacts are not collected during the fieldwork, they should be described and illustrated fully in the field and reported completely in the technical report. The archaeological site record and map also should be updated to reflect the results of the investigations. All fieldwork, analysis, report production, and curation should be fully funded by the applicant.

Plan Requirements and Timing. The boundary definition shall be completed prior to issuance of any grading or discretionary development permits. The final plans should provide for a buffer of 100 feet between any project activities and the final mapped site boundaries. The final plans should include a notation designating the known archaeological site and buffer as unbuildable area where no grading, construction, utility placement, landscaping, or other ground disturbance or development can occur. The area should not be identified as an archaeological site on the plans. Monitoring. Planning and Building staff shall review and approve the recommended boundary definition report and final plan notations prior to issuance of any permits for demolition, grading, or development. Grading inspectors shall monitor grading activities to ensure avoidance.

CR-1(f) CA-SLO-2618, CA-SLO-2619H, and P-40-038242 Mitigation. If avoidance of any of these sites is not feasible, then prior to issuance of any grading or discretionary development permits, the San Juan Village (Fallingstar Phase I) applicant shall retain a County approved Registered Professional Archaeologist identified on the County's list of approved archaeological consultants to complete a Phase 2 archaeological evaluation of sites CA-SLO-2618, CA-SLO-2619, and P-40-038242. The Phase 2 evaluation shall include any necessary archival research to identify significant historical associations as well as mapping of surface artifacts, collection of functionally or temporally diagnostic tools and debris, and excavation of a sample of the cultural deposit to characterize the nature of the sites, define the artifact and feature contents, determine horizontal boundaries and depth below surface, and retrieve representative samples of artifacts and other remains. Any excavation at Native American sites shall be monitored by a tribal representative. Cultural materials collected from the sites shall be processed and analyzed in the laboratory according to standard archaeological procedures. The age of the remains shall be determined using radiocarbon dating and other appropriate procedures; lithic artifacts, faunal remains, and other cultural materials shall be identified and analyzed according to current professional standards. The significance of the sites shall be evaluated according to the criteria of the CRHR, and the cultural resource records shall be updated to reflect the results of the investigations; such results also shall be presented in a technical report following the standards of the California Office of Historic Preservation publication "Archaeological Resource Management Reports: Recommended Content and Format (1990 or latest edition)" (http://ohp.parks.ca.gov/pages/1054/files/armr.pdf). Upon completion of the work, all artifacts, other cultural remains, records, photographs, and other documentation shall be curated at the Repository for Archaeological and Ethnographic Collections of the University of California, Santa Barbara, or another facility approved by the Environmental Coordinator. All fieldwork, analysis, report production, and curation shall be fully funded by the applicant.

If any of the resources meet CRHR significance standards, the County Environmental Coordinator shall ensure that all feasible recommendations for mitigation of archaeological impacts are incorporated into the final design and any permits issued for development. Any necessary data recovery excavation shall be carried out by a County approved Registered Professional Archaeologist according to a research design reviewed and approved by the County Environmental Coordinator prepared in advance of

fieldwork and using appropriate archaeological field and laboratory methods consistent with the California Office of Historic Preservation Planning Bulletin 5 (1991), *Guidelines for Archaeological Research Design*, or the latest edition thereof.

Plan Requirements and Timing. The Phase 2 archaeological evaluation shall be completed prior to issuance of any grading or discretionary development permits. As applicable, the data recovery program shall be completed and the final reports shall be submitted to Planning and Building prior to issuance of a grading permit. Recommendations contained therein shall be implemented throughout all ground disturbance activities. Monitoring. Planning and Building staff shall review and approve the recommended report (and subsequent mitigation) prior to issuance of any permits for demolition, grading, or development. Grading inspectors shall monitor technical aspects of any grading activities.

CR-2(a) Accidental Discovery of Human Remains. In the event of encountering human remains, then the procedures described in Section 7050.5 of the California Health and Safety Code would be followed, and if those remains are determined to be of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code describe the procedures to be followed after the notification of the NAHC. In addition, the Conservation and Open Space Element Policy CR 4.4, Section 19.20.035(a) of the County Building and Construction Ordinance, Section 22.10.040 of the County Land Use Ordinance and Public Resources Code 5097shall be implemented in the event that archaeological deposits are unearthed or discovered during ground-disturbing project activities.

Plan Requirements and Timing. This condition shall be in effect throughout construction of any development facilitated by the Community Plan Update. Monitoring. Planning and Building shall check plans prior to approval of grading permits and shall spot check in the field.

CR-2(b) Archaeological Resource Construction Monitoring. Prior to issuance of a construction permit for the San Juan Village (Fallingstar Phase I) Project, the applicant shall submit a monitoring plan, prepared by a Registered Professional Archaeologist identified on the County's list of approved archaeological consultants, for review and approval by the County Environmental Coordinator. The monitoring plan shall include at a minimum:

1. Provisions for work stoppage if deposits of prehistoric or historical archaeological materials are encountered;
2. Provisions for decreasing (or cessation) of monitoring, or increase in the level of monitoring based on observations and resource discovery. Monitoring shall continue until cultural resources are not likely to be encountered, based on the archaeologist's judgment and upon County Environmental Coordinator approval;
3. A list of personnel involved in the monitoring activities;
4. A description of how the monitoring shall occur;

If deposits of prehistoric or historical archaeological materials are encountered during construction activities, all work within 100 feet of the discovery shall be redirected until the archaeological monitor can assess the find, consult with the County Environmental Coordinator, and make recommendations for the treatment of the discovery. A Native American Tribal representative shall be contacted to review the find and consult with the archaeologist regarding recommendations for the treatment of the discovery.

In the event that archaeological deposits are unearthed or discovered during ground-disturbing project activities, Conservation and Open Space Element Policy CR 4.4, Section 19.20.035(a) of the County Building and Construction Ordinance, and Section 22.10.040 of the County Land Use Ordinance, shall be implemented.

Upon completion of all monitoring activities, the consulting archaeologist shall submit a report to the County Environmental Coordinator summarizing all monitoring activities and confirming that all recommended mitigation measures have been met.

Plan Requirements and Timing. This condition shall be in effect throughout construction of the San Juan Village (Fallingstar Phase I) Project. Monitoring. Planning and Building shall check plans prior to approval of grading permits and shall spot check in the field.

D-2(a) LID-Integrated Management Practices. Low Impact Development (LID) is an alternative site design strategy that uses natural and engineered infiltration and storage techniques to control storm water runoff where it is generated to reduce downstream impacts. LID technologies shall be employed by all new residential and commercial development. LID technologies shall be incorporated into the Stormwater System Plan as appropriate. The following LID practices

shall be implemented to minimize post-development runoff peak and minimize water quality impacts:

1. Impervious surface reduction through street and parking lot design, turf pavers, and green rooftops (a lightweight layer of soil and vegetation atop appropriate roofs);
2. Pavement management and landscape design and maintenance;
3. Bioretention cells (soil and plant based filtration devices);
4. Tree boxes to capture and infiltrate street runoff;
5. Vegetated swales, buffers and strips;
6. Roof leader flows directed to planter boxes and other vegetated areas;
7. Permeable pavement;
8. Impervious surface reduction and disconnection;
9. Soil amendments to increase infiltration rates; and
10. Rain gardens, rain barrels, and cisterns.

Only natural fiber, biodegradable materials shall be used.

Since LID is intended to mimic the pre-development regime through both volume and peak runoff rate controls (Haltiner, 2006), the flow frequency and duration for the post-development conditions should be identical (to the greatest degree possible) to those for the pre-development conditions.

Plan Requirements and Timing. Prior to issuance of building permits, future applicants shall submit design plans containing applicable LID design technologies, subject to the review of the Planning & Building in consultation with Public Works. Monitoring. Either or both Departments shall review plans prior to issuance of building permits and site inspect prior to occupancy clearance.

D-2(b) Pollutant Removal Techniques. In addition to LID-integrated management practices recommended by measure D-2(a), the Stormwater System Plan shall incorporate, and all new residential and commercial development that would result in the development of more than one acre of a given area, or as determined appropriate by the Public Works Department shall integrate into the project design available technologies and techniques to remove pollutants from site runoff prior to entering drainage courses or the public right-of-way. Such techniques shall include reduced slope grading, drainage through vegetative zones (e.g., bio-swale) and other options to intercept pollutants being conveyed toward drainage paths.

Technological solutions such as gravelly filter blankets or particulate filters (e.g. Fossil Filters) should also be installed as pollutant-removal solutions. Only natural fiber, biodegradable materials shall be used.

Plan Requirements and Timing. Applicants shall submit a Drainage Plan that graphically illustrates the location and design of pollutant-removal systems. Design plans shall be submitted to Planning and Building, and Environmental Health Services for review and approval prior to issuance of grading permits. Monitoring. Planning and Building and Public Works will monitor installation prior to construction of any structures; however, the applicant shall be responsible for meeting the water quality conditions of their permit.

G-2(a) Reduction of Liquefaction Potential. Prior to development pursuant to the Community Plan Update, appropriate techniques to minimize liquefaction potential shall be prescribed by an engineering geologist and implemented by the applicant prior to issuance of Building Permits. Suitable measures to reduce liquefaction impacts shall include one or more of the following as recommended by a qualified engineer: specialized design of foundations by a structural engineer, removal or treatment of liquefiable soils to reduce the potential for liquefaction, drainage to lower the groundwater table to below the level of liquefiable soils, in-situ densification of soils, or other alterations to the ground characteristics. All structures shall comply with applicable methods of the California Building Code (CBC), as amended at the time of the time of permit approval.

Plan Requirements and Timing. Future applicants shall notify Planning and Building of specific methods to reduce liquefaction potential, as recommended by a qualified engineering geologist, prior to commencement of grading. Measures to reduce liquefaction shall be implemented prior to issuance of Building Permits. Monitoring. Planning and Building staff shall review and approve the recommended report prior to issuance of the Building Permit. Building inspectors shall make site inspections to assure implementation of approved plans. Grading inspectors shall monitor technical aspects of the grading activities.

G-2(b) Soils/Foundation Report Measures. Individual property developers proposing development within the areas identified as having a moderate or high shrink-swell potential shall submit a soils/foundation report as part of the application for any proposed Building Permit(s). To reduce the potential for foundation cracking,

one or more of the following shall be implemented as recommended by a qualified engineer:

1. Use continuous deep footings (i.e., embedment depth of 3 feet or more) and concrete slabs on grade with increased steel reinforcement together with a pre-wetting and long-term moisture control program within the active zone.
2. Removal of the highly expansive material and replacement with non-expansive compacted import fill material.
3. The use of specifically designed drilled pier and grade beam system incorporating a structural concrete slab on grade supported approximately 6 inches above the expansive soils.
4. Chemical treatment with hydrated lime to reduce the expansion characteristics of the soils.
5. Where necessary, construction on transitional lots shall include over excavation to expose firm sub-grade, use of post tension slabs in future structures, or other geologically acceptable methods.

Plan Requirements and Timing. The recommended report shall be provided along with any future building plans and shall evaluate soil engineering properties and provide foundation design recommendations. Any future project applicant shall notify the Building Department prior to commencement of grading. The soils/foundation report shall be provided to the Planning and Building Department for review and approval prior to issuance of Building Permits. Monitoring. Planning and Building shall review and approve the recommended report (and the foundation design) prior to issuance of a Building Permit. Building inspectors shall make site inspections to assure implementation of approved plans. Grading inspectors shall monitor technical aspects of any grading activities.

G-3(a) Geotechnical Investigation. Future applicants for development within 200 feet of the toe of foothill slopes east of the Study Area shall prepare a Geotechnical Investigation. A qualified geotechnical engineer and/or engineering geologist shall prepare thorough geologic/geotechnical studies, and a slope stability analysis which shall incorporate lot-specific recommendations. The slope stability analysis shall at a minimum meet the requirements of CDMG 1997 (Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117).

All applicable recommendations of final geotechnical investigations shall be implemented. These recommendations may include but are not limited to:

- Avoidance of or setbacks from historic landslide deposits or areas susceptible to a potential for landslides;
- The restriction of grading in areas with landslide hazards;
- Drainage improvements to ensure potential landslide areas do not become saturated; and
- Limitations on cut and fill slope gradients.

Plan Requirements and Timing. Preliminary geologic and geotechnical reports shall be submitted for review and approval by Planning and Building prior to approval of grading permits. During grading, a County geologist shall review and field-verify preliminary geologic and geotechnical reports. Final geologic and geotechnical reports shall be submitted for review and approval by Planning and Building prior to issuance of building permits. Grading and building plans shall be submitted for review and approval by Planning and Building prior to issuance of grading and building permits. Monitoring. Building inspectors shall site inspect during grading and prior to occupancy clearance to ensure compliance with approved plans.

N-1(a) Construction Equipment. Stationary construction equipment that generates noise that exceeds 50 dB(A) Leq at the boundaries of adjacent residential properties shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.

Plan Requirements and Timing. An equipment area with appropriate acoustical shielding shall be designated on building and grading plans. Equipment and shielding shall remain in the designated location throughout construction activities. Monitoring. Planning and Building staff shall perform site inspections to ensure compliance.

N-2(a) Supplemental Noise Study and Abatement for Affected Existing Residences. Prior to issuance of land use permits for new residential subdivisions under the Community Plan, a supplemental noise study shall be provided to Planning and Building that quantifies projected interior and exterior noise levels at outdoor activity areas, accounting

for construction type, distance from roadway, local topography, and shielding by existing buildings, for affected existing sensitive land uses along SR 41. If the County's 65 dB(A) exterior noise standard or 45 dB(A) interior noise standard is determined to be exceeded due to project development, applicants shall contribute their fair share toward a County-administered fund construction of masonry sound walls to abate excessive exterior noise, and/or to enable existing residents to retrofit their homes with noise-reducing building measures to abate excessive interior noise. Noise reduction may be achieved through measures including, but not limited to:

- Installation of doors with a minimum Sound Transmission Class (STC)[8] rating of 50;
- Installation of commercially available windows with STC ratings of 32 or higher;
- Baffling of roof or attic vents; and/or
- masonry walls between roadways and affected outdoor activity areas.

Plan Requirements and Timing. Prior to issuance of land use permits, a noise study prepared by a qualified professional shall be provided to Planning and Building to document post-project interior and exterior noise levels at outdoor activity areas for existing sensitive receptors along SR 41. Future applicants shall contribute their fair share toward a County-administered fund to enable existing residents to retrofit their homes with noise-reducing building measures. If masonry walls are required, then long expanses of walls or fences shall be interrupted with offsets and provided with accents to prevent monotony. Landscape pockets and pedestrian access through walls should be provided. Monitoring. Planning and Building staff shall review noise studies and the incorporation of noise attenuation measures as necessary prior to issuance of a Building Permit. Building inspectors shall make site inspections to assure implementation of approved plans.

N-2(b) Orientation of Outdoor Activity Areas. Prior to issuance of land use permits for new residential development under the Community Plan, documentation shall be provided to Planning and Building that shows that exterior noise levels at all outdoor activity areas for proposed new sensitive land uses along SR 41 do not exceed the County's 65

[8] A single-number rating system for determining the amount of noise reduction provided by a window, door or other building component. The higher the STC rating, the more efficient the component will be in reducing noise. Windows and doors having a minimum STC rating are sometimes required to ensure that a building facade will achieve a minimum Noise Level Reduction (NLR). STC ratings may not be subtracted from exterior noise exposure values to determine interior noise exposure values.

dB(A) exterior noise standard for outdoor activity areas. Outdoor activity areas include backyards and other areas where activities may occur. In order to achieve this standard, outdoor activity areas at noise-sensitive land uses near affected roadways shall be oriented away from the affecting roadway. Alternatively outdoor activity areas should have individual masonry walls that block line-of-sight to the affecting roadway noise sources.

Plan Requirements and Timing. Prior to issuance of land use permits, a noise study prepared by a qualified professional shall be provided to Planning and Building to document post-project exterior noise levels at outdoor activity areas for sensitive receptors along SR 41 and First Street. Site design and building orientation for future development projects shall be submitted to Planning and Building prior to issuance of land use permits. Monitoring. Planning and Building staff shall review noise studies, site and building design, and the incorporation of noise attenuation measures as necessary prior to issuance of a Building Permit. Building inspectors shall make site inspections to assure implementation of approved plans.

N-2(c) Building Façade Improvements. Prior to issuance of land use permits, documentation shall be provided to Planning and Building that shows that interior noise levels in proposed new residential units along SR 41 do not exceed 45 dB(A). Techniques to reduce noise levels by 25 dB(A) include implementation of Uniform Building Code standards and the following:

- Installation of doors with a minimum Sound Transmission Class (STC)[9] rating of 50;
- Installation of commercially available windows with STC ratings of 32 or higher;
- Within residences, location of bathrooms and kitchens toward the noise source, with bedrooms located away from the noise source; Air conditioning or a mechanical ventilation system is installed so that windows and doors may remain closed;
- Exterior walls consist of stucco or brick veneer. Wood siding with a ½" minimum thickness fiberboard ("soundboard") underlayer may also be used;
- Glass in both windows and doors should not exceed 20% of the floor area in a room.

[9] A single-number rating system for determining the amount of noise reduction provided by a window, door or other building component. The higher the STC rating, the more efficient the component will be in reducing noise. Windows and doors having a minimum STC rating are sometimes required to ensure that a building facade will achieve a minimum Noise Level Reduction (NLR). STC ratings may not be subtracted from exterior noise exposure values to determine interior noise exposure values.

- Windows and sliding glass doors are mounted in low air infiltration rate frames (0.5 cfm or less, per ANSI specifications);
- Placement of windows and balconies away from roadways; and,
- Roof or attic vents shall be baffled.

Plan Requirements and Timing. Prior to issuance of land use permits, a noise study prepared by a qualified professional shall be provided to Planning and Building to document post-project interior noise levels at sensitive receptors along SR 41 and First Street. Noise mitigation elements of the future development projects shall be submitted to Planning and Building prior to issuance of land use permits to determine whether all applicable noise mitigation measures have been incorporated. Future applicants shall offer to install necessary noise-related improvements at off-site receptors. Monitoring. Planning and Building staff shall review the incorporation of noise attenuation measures prior to issuance of a Building Permit. Building inspectors shall make site inspections to assure implementation of approved plans.

N-2(d) Truck Delivery Limitations. Truck deliveries to commercial uses on mixed use development sites shall be limited to between the hours of 8:00 a.m. and 6:00 p.m. on weekdays and Saturdays. Delivery areas shall be oriented away from sensitive uses to the extent feasible. No deliveries shall occur on Sundays.

Plan Requirements and Timing. Signs stating these restrictions shall be provided by future developers and posted on-site. Monitoring. Planning and Building staff shall spot check and respond to complaints.

N-2(e) Common Wall Insulation. Pursuant to County Building and Construction Ordinance requirements, common walls between horizontal (side-by-side) and vertical (stacked) mixed use commercial/residential development shall be noise-insulated to provide attenuation of indoor noise levels.

Plan Requirements and Timing. Future applicants for mixed use development shall incorporate the listed provision into development plans. Monitoring. Planning and Building shall conduct a site inspection to ensure development is in accordance with approved plans prior to occupancy clearance.

N-2(f) Sound Barriers for External Equipment. External noise-generating equipment associated with commercial uses (e.g., HVAC units, etc.) that are located in mixed use developments and/or adjacent to residential uses shall be shielded or enclosed with solid sound barriers.

Plan Requirements and Timing. Future applicants for mixed use development shall incorporate the listed provision into development plans. Monitoring. Planning and Building shall conduct a site inspection to ensure development is in accordance with approved plans prior to occupancy clearance.

S-1(a) Soil and Groundwater Assessment. Prior to construction in areas historically used for agriculture, a soil and groundwater assessment shall be completed by a registered soils engineer or soils remediation specialist to determine the presence or absence of regulated contaminants. If soil or groundwater sampling indicates the presence of any contaminant in quantities not in compliance with applicable laws, the Regional Water Quality Control Board (RWQCB) and Department of Toxic Substances Control (DTSC) shall be contacted by future project applicants to determine any necessary remediation efforts. Soils and/or groundwater shall be remediated in compliance with applicable laws. Site assessments that result in the need for soil excavation are recommended to include: an assessment of air resource impacts and health impacts associated with excavation activities; transportation impacts from the removal or remediation activities; and risk of upset management practices shall be employed if an accident occurs on or off the site. A copy of applicable remediation certification from RWQCB and/or DTSC, or written confirmation that a certification is not recommended shall be submitted to the San Luis Obispo County Planning and Building Department prior to issuance of a building permit.

Plan Requirements and Timing. The results of preliminary soil and groundwater tests shall be submitted for review by Planning and Building prior to approval of any future building permits. Monitoring. Building inspectors shall site inspect during grading and during remediation efforts, as applicable, to ensure compliance with the recommended measures.

S-1(b) Groundwater Testing. In the event that groundwater is encountered during grading or construction, all grading or construction work in the vicinity of the groundwater shall be halted and the groundwater shall be tested for Total Petroleum Hydrocarbons (TPH) and Volatile

Organic Compounds (VOCs), and be screened for common agricultural groundwater pollutants using EPA testing methods. If one or more pollutants are found in unsafe concentrations, the water shall be treated to a concentration below RWQCB standards by a County approved registered environmental assessor or environmental engineer in consultation with RWQCB before the water can be released into the watershed. Such testing can occur in advance of grading activities to preclude the possibility of watershed contamination.

Plan Requirements and Timing. During construction, a qualified specialist shall review and field-verify the results of the recommended testing of any groundwater, should it be encountered during construction activities. Monitoring. Building inspectors shall site inspect during grading and during remediation efforts, as applicable, to ensure compliance with the recommended measures.

S-2(a) Underground Service Alert. Prior to construction, Underground Service Alert (i.e., USA North) shall be contacted at 811 in order to determine the location of underground pipelines relative to construction activities to ensure pipelines are not damaged or ruptured during construction. If during construction/grading activities the contractor discovers an unknown waste or debris which is believed to involve hazardous waste and/or materials, the contractor shall immediately stop work in the vicinity of the suspected contaminant, remove workers and the public from the area, and contact the County Planning and Building Department. If hazardous materials (including contaminated soil or groundwater) are uncovered during construction activities, the County and/or the project contractor and authorized agents thereof shall take appropriate measures to assure worker safety and provide for assessment and remediation in accordance with local, state, and federal regulations.

Plan Requirements and Timing. Future developers shall contact USA North prior to construction activities. Monitoring. Planning and Building shall confirm USA North was contacted and that construction activities would not interfere with existing underground pipelines.

T-1(a) Development Funding Mechanism for Traffic Improvements Within the Plan Area. As part of the Community Plan Update, a funding mechanism shall be established to construct and implement necessary improvements identified in mitigation measures T-1(c) through T-1(e). The funding mechanism shall consist of either an area-wide fee where applicants for future development will be required to pay impact fees or a requirement that future applicants

"front" the cost of the improvements and be reimbursed as land uses are developed.

Plan Requirements and Timing. Future project applicants shall pay for the development of a detailed funding plan to address construction and implementation of the recommended Community Plan Update mitigation measures. Monitoring. Prior to issuance of land use permits, Planning and Building will review the funding plan and ensure completion of the reimbursement agreement.

T-1(b) Development Funding Mechanism for Traffic Improvements Outside the Plan Area. A funding mechanism shall be established to construct and implement necessary off-site improvements located within the City of Paso Robles identified in the February 2010 Wood Rogers Transportation Impact Study (i.e., widening of SR 46 and improvements to the SR 46/ US 101 interchange). Regional projects that shall contribute their fair share of fees are those which would utilize SR 46 as their primary access to urban services. The fee mechanism would be developed by the County. The funding mechanism shall consist of either an area-wide fee where projects that are located within the Study Area will be required to pay impact fees that would be provided to the City of Paso Robles or a requirement that applicants for future applicants "front" the cost of the off-site improvements and be reimbursed as land uses are developed. A preliminary fair-share estimate for the planned future SR 46 East grade-separated interchanges at Jardine Road, Union Road, and Golden Hill Road is included in Table 1 of Appendix F, *Transportation Impact Study*.

Plan Requirements and Timing. Future project applicants shall pay for the development of a detailed funding plan to address construction and implementation of the recommended off-site improvements within the City of Paso Robles. Monitoring. Prior to issuance of land use permits, Planning and Building will review the funding plan and ensure completion of the reimbursement agreement.

T-1(c) West Centre Street-McMillan Canyon Road and SR 46 East Community Plan Improvements. Future applicants for development under the Community Plan Update shall pay fair share fees to construct a grade-separated interchange at the intersection of West Centre Street-McMillan Canyon Road and SR 46 East. As an alternative, future applicants shall provide for:

- *A traffic signal;*

- *Intersection modifications, including dual northbound left-turn lanes, a single northbound shared through-right lane, and a dedicated southbound left-turn; and*
- *A dedicated right-of-way footprint to allow for construction of a future grade-separated interchange at West Centre Street-McMillan Canyon Road and SR 46 East.*

As these improvements would occur within Caltrans jurisdiction, an encroachment permit from Caltrans would be required if the cost of the improvements is less than three million dollars. A Project Study Report (PSR) and encroachment permit from Caltrans would be required if the cost of the improvements exceeds three million dollars.

Plan Requirements and Timing. Prior to issuance of land use permits, future applicants shall contribute fair share fees to a funding mechanism established for the preparation of applicable studies and implementation of recommended improvements. Monitoring. Caltrans and the County of San Luis Obispo shall site inspect to ensure installation of improvements prior to occupancy clearance.

T-1(d) East Centre Street (SR 41) and SR 46 East Community Plan Improvements. Future applicants for development under the Community Plan Update shall pay fair share fees to construct a grade-separated interchange at the intersection of East Centre Street (SR 41) and SR 46 East. As an alternative, future applicants shall provide for:

- *A traffic signal;*
- *A northbound right-turn lane (overlap right-turn phase); and*
- *A dedicated right-of-way footprint to allow for construction of a future grade-separated interchange at East Centre Street and SR 46 East.*

As these improvements would occur within Caltrans jurisdiction, an encroachment permit from Caltrans would be required if the cost of the improvements is less than three million dollars. A PSR and encroachment permit from Caltrans would be required if the cost of the improvements exceeds three million dollars.

Plan Requirements and Timing. Prior to issuance of land use permits, future applicants shall contribute fair share fees to a funding mechanism established for the preparation of applicable studies and implementation of recommended improvements. Monitoring.

Caltrans and the County of San Luis Obispo shall site inspect to ensure installation of improvements prior to occupancy clearance.

T-1(e) Centre Street Two-Way Left-Turn Lane. Future applicants for development under the Community Plan Update shall pay fair share fees into a funding mechanism established to widen the two-lane arterial segment of Centre Street from First Street through Toby Way, including both of these streets intersections with Centre Street, to provide a continuous two-way-left-turn median lane (TWLTL) in order to provide for adequate turn-lane movements/ storage at key intersections and mid-block locations. This improvement shall include southbound left-turn channelization on First Street approach to Centre Street. Addition of a TWLTL for this segment mitigates the need for signals at First Street and Toby Way.

As these improvements would occur within Caltrans jurisdiction, an encroachment permit from Caltrans would be required if the cost of the improvements is less than three million dollars. A PSR and encroachment permit from Caltrans would be required if the cost of the improvements exceeds three million dollars.

Plan Requirements and Timing. Prior to issuance of land use permits, future applicants shall contribute fair share fees to a funding mechanism established for the preparation of applicable studies and implementation of recommended improvements. Monitoring. Caltrans and the County of San Luis Obispo shall site inspect to ensure installation of improvements prior to occupancy clearance.

T-1(f) West Centre Street-McMillan Canyon Road and SR 46 East San Juan Village (Fallingstar Phase I) Project Improvements. The applicant shall provide the following intersection improvements at West Centre Street-McMillan Canyon Road and SR 46 East:

- *A northbound acceleration and merge lane from West Centre Street to westbound SR 46;*
- *A dedicated northbound left and combination through-right turn lanes (on West Centre Street); and*
- *Ensure that the second westbound SR 46 through lane, as planned in the SR 46 Corridor improvement project, is provided by year 2015 at this intersection.*

As these improvements would occur within Caltrans jurisdiction, an encroachment permit from Caltrans would be required if the cost of the improvements is less than three million dollars. A PSR and associated approval from Caltrans would be required if the cost of the improvements exceeds three million dollars.

Plan Requirements and Timing. Improvements shall be installed prior to occupancy clearance. The applicant shall construct and implement the improvements under a Caltrans encroachment permit or PSR. Monitoring. Caltrans and the County of San Luis Obispo shall site inspect to ensure installation of improvements prior to occupancy clearance.

T-1(g) East Centre Street and SR 46 East San Juan Village (Fallingstar Phase I) Project Improvements. The applicant shall provide the following intersection improvements at East Centre Street and SR 46:

- *A north-to-west acceleration and merge lane;*
- *A dedicated north-to-west left-turn lane; and*
- *Ensure that the second westbound SR 46 through lane, as planned in the SR 46 Corridor improvement project, is provided by year 2015 at this intersection.*

As these improvements would occur within Caltrans jurisdiction, an encroachment permit from Caltrans would be required if the cost of the improvements is less than three million dollars. A PSR and associated approval from Caltrans would be required if the cost of the improvements exceeds three million dollars.

Plan Requirements and Timing. Improvements shall be installed prior to occupancy clearance. The applicant shall construct and implement the improvements under a Caltrans encroachment permit or PSR. Monitoring. Caltrans and the County of San Luis Obispo shall site inspect to ensure installation of improvements prior to occupancy clearance.

T-4(a) Public Transit Service Improvements. Future applicants shall coordinate with San Luis Obispo Regional Transit Authority (RTA) and San Luis Obispo Regional Rideshare to implement the following improvements to existing public transit services:

- Expand the existing Dial A Ride program to provide afternoon/evening and weekend transportation on a regular

schedule in consultation with San Luis Obispo Regional Transit Authority (RTA);

- At sites determined in consultation with RTA, provide improved public transit amenities (i.e., covered transit turnouts, direct pedestrian access, covered bench, smart signage, route information displays, lighting etc.);
- At sites determined in consultation with RTA, provide a display case or kiosk displaying transportation information in a prominent area accessible to employees and residents; and
- Commercial uses with more than five employees shall implement a Transportation Choice Program to reduce employee commute trips in consultation with San Luis Obispo Regional Rideshare. Information and support for carpools and vanpools shall be provided, and the formation of a telecommuting center shall be considered.
- Construct a Park & Ride lot in the Community Plan Study Area. The site shall be located in an area with existing pavement or other site disturbance.

Plan Requirements and Timing. The recommended public transit improvements shall be implemented and/or constructed prior to issuance of occupancy clearance. Monitoring. Prior to issuance of occupancy permits, Planning and Building shall review the public transit improvements and ensure compliance.

W-1(a) Importation of State Water Project. The County has contract rights to request a portion of the State Water Project water each year, in accordance with a long term water service contract with the Department of Water Resources. Future applicants shall fund the County's pursuit of this State Water Project allocation to offset impacts to groundwater resources.

Plan Requirements and Timing. The County shall attain their State Water Project allocation from the Department of Water Resources and water from their allocation shall be available to the Community Plan area. Monitoring. The County shall monitor water demand as development under the Community Plan occurs to anticipate the timing for attaining the 100 AFY State Water Project allocation.

W-1(b) Retrofit Program for Existing Development. Future applicants shall fund the County's development and implementation of a toilet retrofit program to replace existing high flow toilets (5.5 gallons per flush) with low flow toilets (1.28 gallons per flush) in existing residential and commercial structures. It is assumed that approximately two-

thirds of the existing 373 residential units within the Study Area have high flow toilets and that up to 70% of those toilets could be converted to low flow toilets (assumptions based on Santa Barbara County Resource Management Department, Groundwater Thresholds Manual, 1992). The annual savings per person is approximately 6,163 gallons. Return flow are estimated to be 31%. Therefore, this program could save up to approximately 8 AFY. Additionally, existing commercial uses would further reduce water demand if they participated in the program; however, data is not available to estimate the amount water savings for these uses.

Plan Requirements and Timing. The County shall oversee the toilet retrofit implementation program prior to issuance of grading permits for the first project pursuant to the Community Plan Update. Monitoring. Planning and Building shall implement the retrofit program through the construction permit process.

W-1(c) Water Conservation Measures. New residential and commercial development within the Community Plan area shall implement the following water conservation measures.

- Installation of low flow or dual flush toilets;
- Installation of low flow shower heads and water faucets;
- Installation of energy efficient appliances;
- Drip irrigation or micro-sprayers on appropriate landscaped areas;
- Use of devices such as soil monitors and rain shutoff devices for all automatic irrigation systems;
- Use of mulch in non-turf areas;
- Use of permeable hardscape to the extent feasible; and,
- Use of soil amendments to increase soil moisture holding capacity of soil.
- Use of native low water using landscaping.

Plan Requirements and Timing. Future applicants shall demonstrate to Planning and Building successful implementation of all applicable water conservation measures prior to final building inspection. Monitoring. Planning and Building shall review planning application materials to ensure that all applicable water conservation measures have been implemented.

W-1(d) Groundwater Offset. New nonagricultural use of groundwater shall be offset through one or more of the means listed below prior to issuance of construction permits for any of the following new development: 1)

development resulting from new land divisions, 2) land use permits that result in greater than four (4) dwelling units, 3) development of more than 9,999 square feet of floor area for uses listed under the industry, manufacturing and processing land use group, 4) development of more than 2,499 square feet of floor area for uses listed under all other non-residential use groups.

a. Retrofit high-flow toilets and other plumbing fixtures within the Paso Robles Groundwater Basin with low-flow toilets and plumbing fixtures;
b. Participate in a Board of Supervisors-approved pluming retrofit program for the Paso Robles Groundwater Basin;
c. Use the California Urban Water Conservation Council's (CUWCC) best management practices for water conservation;
d. Pay a "fair share" of the costs for delivering State water in excess of CSA-16's 2011 allocation of 100 acre-feet per year;
e. Participate in a Board of Supervisors-approved lot retirement program for the Paso Robles Groundwater Basin;
f. Participate in the County's Transfer of Development Credits (TDC) program pursuant to Chapter 22.24, provided eligible sending sites are located within the Paso Robles Groundwater Basin, and receiving sites shall not be eligible for a density bonus. The receiver site will receive credit for the water demand that the sending site would have otherwise used, if developed. The ground water off-set shall be determined at the same time the receiver site determination is made.
g. Participate in a Board of Supervisors-approved rural water conservation program that results in reducing groundwater pumping within the Paso Robles Groundwater Basin.
h. Participate in a Board of Supervisors-approved fee program that results in reducing groundwater pumping within the Paso Robles Groundwater Basin.

W-2(a) Water Master Plan Update. The CSA 16 Water Master Plan shall be updated to include the proposed Shandon Community Plan Update and corresponding expansion of the CSA 16 service boundary. The update should be guided by the County Public Works Department and be funded by future developers in proportion to the increase their development will have on the area covered by the CSA 16 Water Master Plan. Additional funding to prepare the Master Plan Update would come from source identified in the Public Facilities Financing Plan for the Shandon Community Plan Update. The Master Plan Update will serve both the existing community and new development and should accomplish, at a minimum, the following:

1) Provide project-specific evaluations of velocities and pressure throughout the system at various demand scenarios.
2) Provide project-specific hydraulic modeling and fire flow analyses to evaluate impacts to operating pressures and fire flow availability in the existing and proposed water sys tem and determine what, if any, water system upgrades are recommended for each project.
3) Provide design criteria and standards for various components of the water system, including pipe sizing, well capacities, fire flow requirements, pipe velocities and pressures.
4) Provide phasing recommendations for upgrades to the water system.

Plan Requirements and Timing. The Water Master Plan Update is to be completed prior to approval of development plans. Monitoring. Development plans shall be submitted to the County for approval. Compliance with the recommendations provided by the Master Plan Update should be reviewed for the water system components.

W-3(a) Wastewater Disposal and Storage Capacity. The proposed WWTF storage and disposal facilities shall be designed to allow phasing to eventually accommodate full buildout of the Community Plan Update.

Plan Requirements and Timing. The proposed WWTF shall be designed to allow phasing to eventually accommodate full buildout of the Community Plan prior to issuance of construction permits for development pursuant to the Community Plan Update. Monitoring. Development plans for the WWTF shall be submitted to Planning and Building and Public Works for approval.

W-3(b) Septic Tank and Leachfield Site Plan. Future applicants for development on the northwest commercial parcel shall develop and submit a septic tank and leachfield site plan, as well as percolation tests and borings in accordance with County leachfield design/construction requirements. The applicant shall demonstrate sufficient leachfield percolation for proposed uses, in accordance with County standards.

Plan Requirements and Timing. Future applicants for development on the northwest commercial parcel shall submit a septic tank and leachfield site plan to Planning and Building with Development Permit Application. Monitoring. County Environmental Health and Building Department staff shall review plans prior to issuance of a development permit.

Appendix E

Wood Rodgers Inc. Technical Memorandum, Shandon Community Plan Update, Draft Transportation Impact Fee Program

Appendix F

Background Maps

1) Contour Map

2) 2011 Assessor Parcel Map Showing Williamson Act Parcels


SEC 16
SEC 19
SEC 20
SW 1/4 OF
THE SW 1/4
OF SEC 21

2011 Assessor Parcel Map
Showing Williamson Act Parcels
From Table 3.4

Noticed for contract non-renewal

Remaining in contract

17 - 163